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BUNGIE JUMPS

Why the team behind Halo split from Microsoft

INSIDE ▸ CAN ADVERTISING AID GAME DESIGN? • SPECIAL FOCUS: AI • TOOLS NEWS & MORE

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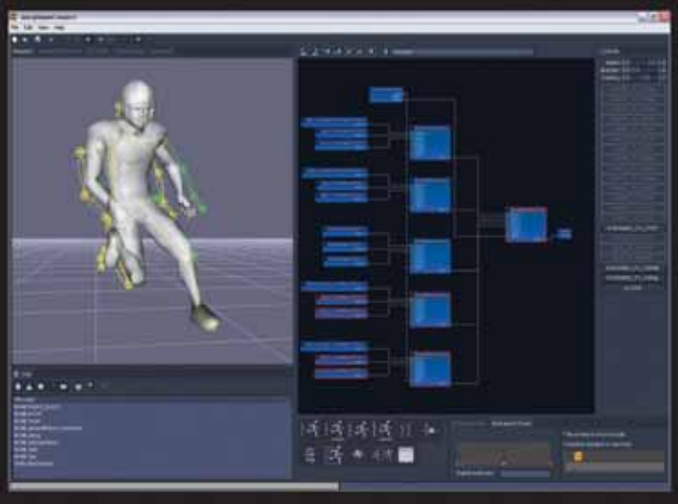


morpheme is the industry's first graphically authorable animation engine. morpheme consists of morpheme:runtime: an advanced runtime animation engine for PLAYSTATION®3, Xbox 360™ and PC, and morpheme:connect: a highly-customizable 3D authoring application.

morpheme gives animators and developers unprecedented control over the look and feel of their animations in-game: blends, transitions, compression, etc. can all be previewed and modified graphically in morpheme:connect and live on the target platform.

morpheme:runtime ships with full source code and integrates seamlessly with euphoria, NaturalMotion's Dynamic Motion Synthesis technology.

For more information, visit www.naturalmotion.com

blend tree

Advanced graphical tools for building complex blend trees. Real-time visualization of animation source contribution through node highlighting

blending

Graphical control of transition blending between states in the transition graph

multiple characters

Visualization of multiple runtime characters in morpheme:connect for easy authoring and analysis of character interaction

network

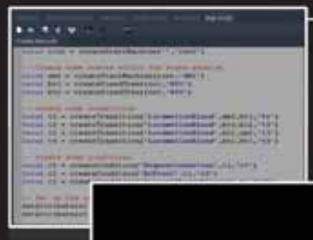
Advanced graphical tools for creating and visualizing transition networks through drag-and-drop

control parameters

Exposure of custom high-level controls for entire animation system. Real-time manipulation through sliders or game pad controller

scripting

Full Lua scripting for automating tasks, adding AI logic or polling game pads for real-time input



timeline

Graphical mark up of animation data to add one-shot and duration events, for highlighting footfalls, sound effects, etc.

node palette

Advanced blend notes for dragging and dropping into transition network. Fully customizable node types through C++ and scripting

animation browser

Easy browsing and selection (drag & drop) of source animation. Animation list is automatically updated to reflect changed source files

transition requests

Exposure of custom transition messages. In-tool emulation of interaction between morpheme:runtime and game AI system

NATURALMOTION

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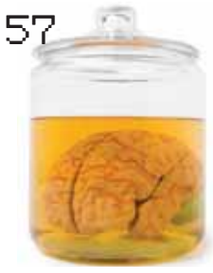
Microsoft Visual Studio Express 2008 Beta 2



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ALPHA
ADVENTURES IN GAMES DEVELOPMENT: NEWS, VIEWS & MORE

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A taxing matter

Government examining possibility of tax breaks for development, but says the industry is not united on the matter

The Government's Minister of Culture, Sport and Media, Margaret Hodge, has told developers her department is looking into the possibility of introducing tax breaks akin to those in Montreal – or, as an alternative, challenging Canada's comfortable credit system as being against World Trade Organisation laws.

A variety of conflicting comments from Hodge punctuated the main week of the London Games Festival where, over the course of five days, she expressed three different stances on the matter.

The Minister first told attendees of the ELSPA AGM that it was "unlikely" the UK would be able to adopt its own tax breaks.

However, a glimmer of hope for those hoping the Government did something about the threat from the fast growing Montreal games scene appeared when Hodge briefly sat down with a panel to discuss the UKTI's games report Playing for Keeps.

"We think it will be hugely difficult to introduce a tax relief," she said, but repeatedly added: "but I'm looking into it."

The Minister had seemingly come off the fence by the end of the week, however, with a report on Channel 4 News saying she may potentially consult the World Trade Organisation about the legality of the Quebec territory's tax credits, while also examining the tax breaks mooted for France (already passed by French Parliament and awaiting European Union approval). A Government source told Channel 4 that the Government would quickly implement its own measure should the French move gain approval.

"We think it will be hugely difficult to introduce a tax relief. But I'm looking into it..."

Margaret Hodge,

Minister for Culture, Media and Sport

Hodge had told developers at the UKTI event that the industry was sending her mixed messages on the issue and was split on the matter – a point which may be the most important factor of all, and hamper the upcoming examination of the French Bill and any similar move by the UK Government.

ELSPA, as part of European games group ISFE, has reportedly signed up to reject the approach to tax breaks suggested in France which vets eligible projects based on their cultural relevance. Publishers are seemingly reluctant to adhere to rules defining the cultural aspect of a production in order to gain state finance; developers, on the other hand have been quick to point out that contracts and staff are being lost to Canada, and argue that most if not all games could and should be vetted as cultural items given that they are entertainment produced by our country's populace.

In the meantime Hodge pointed developers towards potential aids already in place in the meantime, such as the R&D tax credits, and told ELSPA's publisher contingent: "From my perspective, the one word that I hear the most from the industry is 'Canada', but as you all know the issues are bigger than one country. While Canada may be the current challenge to the UK industry, it could just as easily move to somewhere else in the next couple of months."

Of course, the time it may take to implement any such policy in the UK – or even put forward a case to the WTO – may make any fears or conflicting views redundant.

Hodge's claims that the pressure may well have eased off in the next few years could come to pass purely based on the fact other territories are tempting the UK development sector's talent, investment and power – which is exactly what many of the industry's senior execs claim will and already has happened.

WORLD*VIEW* GLOBAL NEWS > p08

Editorial
Mixed messages

It's been interesting watching the Government shift direction on an almost daily basis when it comes to tax breaks for games development.

What's more interesting, and possibly troubling, is what Culture Minister Hodge said of the industry's ability to communicate; that it isn't speaking to her with a unified voice. With ELSPA signing an objection to the criteria for France's proposed tax breaks, despite some of its senior members telling the *FT* that Canada is a threat, all while UKTI, BERR and Tiga produce the *Playing For Keeps* report, it's clear she has a point.

Then again, such splits and rivalries are endemic to the UK industry, so there's little surprise Government is confused by what it wants. This was certainly clear throughout the London Games Festival itself (where Hodge made her comments about tax relief), during which I think the games market both succeeded and failed badly in getting the message out to the world that games are a medium of true worth.

Compare the opening day's event, Video Games Live, with one just the following day, the game BAFTAs.

VGL explored how games have used music, in its most traditional sense, to create emotion and excitement about its content – a packed Royal Festival Hall of cosplayers and genuine game and music fans proved that, yep, games are an excellent medium.

All of that sentiment was undone just 24 hours later by the awkward treatment of the medium at the BAFTAs.

The ceremony displayed a lack of appreciation for a medium it wants to court and acknowledge. While the winners and the fellowship for Will Wright are all deserved, forcing those same winning developers in the audience (well, those present – but grumbling about having PRs and marketing people collect BAFTAs is another rant entirely) to watch characters from *Hollyoaks* badly discuss – at length, to boot – how games use stories was embarrassing. Same goes for the insertion of of music acts hawking their difficult second albums, and the shadow of T4 cheapening the whole thing. Guess what: I don't care if Charlie From Busted plays games.

If this is what it takes to make games content broadcastable for TV, and have our developers and games seen, then let's not bother. After all, as Hodge told anyone that would listen throughout LGF, games are top of the class in the UK's creative industries, and other mediums are competitors, so why pander to them?

Michael French
michael.french@intentmedia.co.uk

Can ads aid

In-game ad firm Double Fusion thinks so, as it launches a new tool

To some developers, in-game advertising is either the dull brother to digital distribution or that thing their publisher keeps banging on about but they don't have time to think or care about.

But in-game ad firm Double Fusion says ads can become a key aid to environment designs as well as developers' business, helping inform the creation of game assets and interfaces via the smart use of player behaviour data.

According to Frank Sagnier, the European MD of the ad firm, advertising placed in game environments can help monitor what locations are popular, visited often, or ignored by players – with the resulting data not just showing how much revenue games generated by each ad but also aid designers' creation of in-game areas. In-game ad companies that have dynamic networks monitoring game sessions and activity within levels generate data that is proving invaluable to studios, added Sagnier.

"We're talking to people in development who are asking how to design their game better for both ads and in general," he told *Develop*.

"For masively multiplayer games and virtual worlds we have developers asking us to look into where players are going and what they see. We can track the ads to see that players are going to certain spots.

"It's difficult to know what environments work when you're designing a game in a vacuum, but when it comes to MMOs you can update the game based on player behaviour. Really, consumers can control the design of a game. Because we can track the data on what they are looking at and doing, we can help developers design their games better.

"Developers are starting to realise that there is having a benefit to having this tool running underneath their game."

The comments came as the company launched its Fusion.runtime technology, a new tool that lets publishers retroactively add marketing to games and does away with the development needed in implementing in-game ads. That technology has proven

Double Fusion UK MD Frank Sagnier: "We're talking to people in development who are asking how to design their game better for both ads and in general"

Double Fusion's runtime tech allows ads to be inserted into games that have already been developed (as shown below and above)

game design?

that lets ads be implemented in game without harming development time

"If developers are worried about not benefitting from in-game ads they need to start negotiating with their publishers..."

David Miller, Double Fusion

both a boon for publishers – letting them release free versions of back catalogue games that are ad-supported, for instance – and a warning for developers.

The 'just-in-time' approach of Fushion.runtime is described as "designed to break through the code integration barrier" and an answer to developer concerns that agreeing with a publisher (or being forced) to implement in-game ads means another thing added to the list of things to do before a game ships.

The technology can put 2D and 3D ads straight into a game by accessing the textures used by a game engine. Anything can be integrated, and the technology already has partners amongst traditional publishers, MMO developers such as NCsoft and casual games studios like Oberon Media. The fact that games can be monetised once out of a studio's hands is both a blessing and a curse for studios, which DoubleFusion acknowledged, adding that now developers should acknowledge and barter for the power of in-game ads before publishers completely dominate the revenue stream.

"One of the reasons why advertising is viewed with scepticism by developers is that they think of in-game ads as interrupting their work, like a TV ad or a pop up.

"Certainly, the capability is there to do those with our technology, but the best ads are those that are integrated into the game by developers themselves, subtly," added business development director David Miller, who explained that traditionally its publishers that organise in-game advertising, but added that the opportunity exists for studios to now take a slice of the profit as well as do the work integrating product placement and the like.

Pointing out that given there is a lot of talk over IP ownership, securing revenues from in-game ads might be part of those negotiations with publishers, he said: "If developers are worried about not profiting or benefiting then they need to start negotiating over the revenues for them."

www.doublefusion.com

DATA BYTES

87%

The percentage of UK studios which own game engine intellectual property

Source: UKTI's Playing for Keeps report

$730m

The total amount spent in the UK on games development in 2006

Source: UKTI's Playing for Keeps report

38%

The percentage of UK independent studios that think outsourcing strengthens the production process

Source: UKTI's Playing for Keeps report

"When it comes to a brain drain, if anything we are seeing an influx of talent into the UK from Europe."

Shawn Layden, SCE Worldwide Studios Vice President

Source: UKTI's Playing for Keeps report

WorldView

Our regular round up of development stories from across the globe…

MONTREAL, CANADA

Those fearing the rise of the Quebec region and the mounting pressure it is placing on other territories might not want to read this: the territory is very close to passing the 5,000-man workforce mark and has seen 177 per cent growth over the past two years. This was part fuelled by Ubisoft's aggressive expansion in the region, and the arrival of Eidos, whose Montreal studio is already in the top 20 of the region's 50 or so companies based on size.

SAN FRANCISCO, USA

Developers will soon be able to create applications for Apple's iPhone and iPod Touch, CEO Steve Jobs announced in a company blog post last month

Previously the company had taken a closed platform stance for the gadgets, denying access to any third party programs without unofficial software modifications. A software update in September caused many unlocked iPhones to cease to function, closing any doors to the idea of running non-Apple code on the devices.

Although not alluding to the reasons for the company's about-turn, Jobs wrote: "Let me just say it: We want native third party applications on the iPhone, and we plan to have an SDK in developers' hands in February. We are excited about creating a vibrant third party developer community around the iPhone and enabling hundreds of new applications for our users.

"It will take until February to release an SDK because we're trying to do two diametrically opposed things at once – provide an advanced and open platform to developers while at the same time protect iPhone users from viruses, malware, privacy attacks, etc. As our phones become more powerful, these malicious programs will become more dangerous, and since the iPhone is the most advanced phone ever, it will be a highly visible target."

REDWOOD CITY, CALIFORNIA

In October Electronic Arts signed the biggest development acquisition seen in the industry so far, buying studios BioWare and Pandemic for $860m from investment firm Elevation Partners.

Described as a move which "fills up a gap in our genre line-up" according to EA CFO Warren Jenson, the buy sees EA obtain two huge development resources with a raft of owned IP and multiple studios across the US, Canada and Australia that employ 800 developers.

Pandemic is best known for its work on the *Mercenaries* (*pictured*) franchise, while BioWare is an acclaimed creator of story based RPG and adventure titles.

The two were bought by Elevation Partners in a deal overseen by EA CEO John Riccitiello (who at the time worked for Elevation) in 2005.

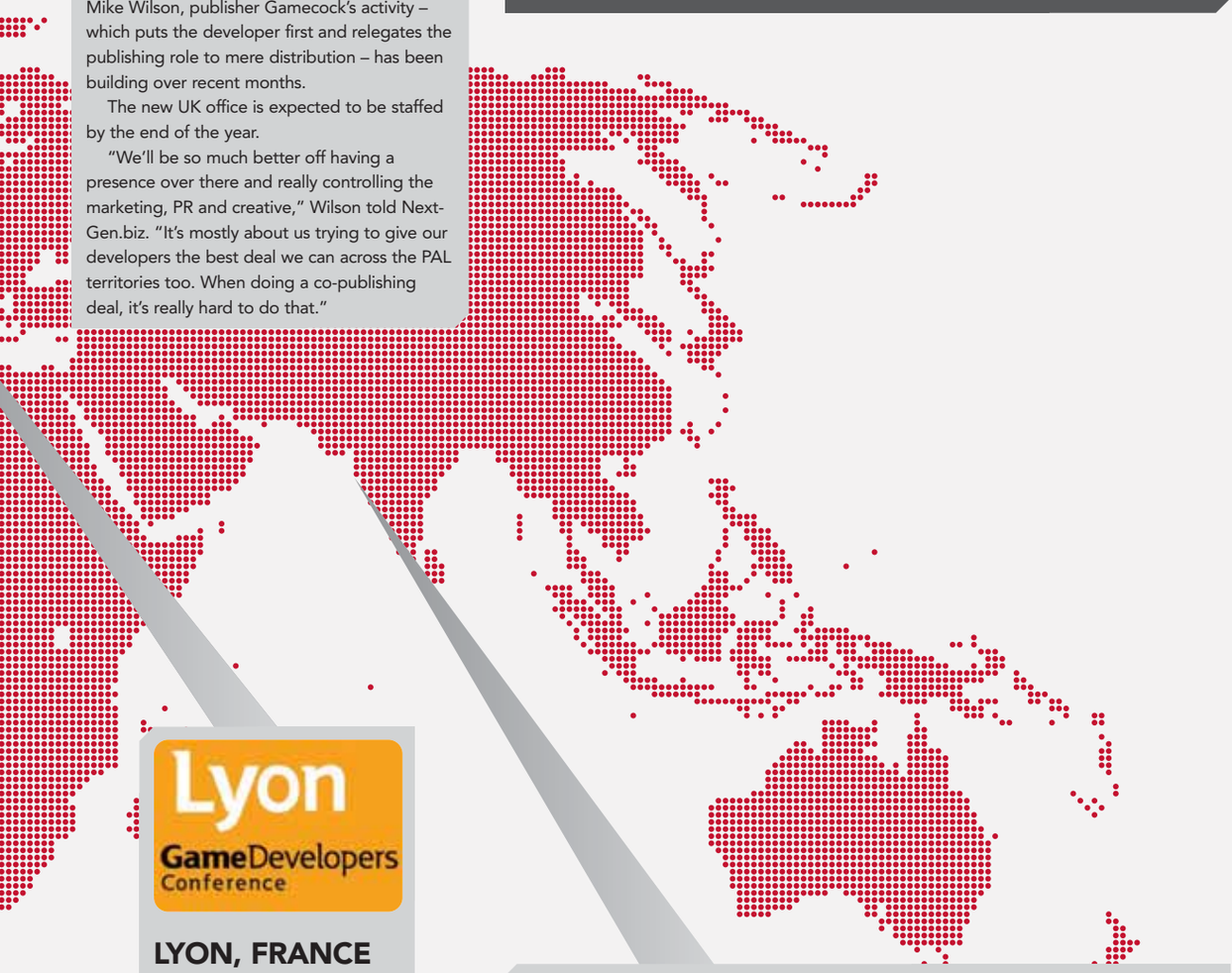
Since he returned to his post as CEO this year, many have speculated that EA will acquire the studios he had cherry picked two years ago.

However at the same time, the publisher is also seeing through a number of layoffs across a number of its studios. Although described as a "routine and rather small" event, the shaving down of the workforce comes following Riccitiello's overhaul of the entire company, announced earlier this year, which has seen the firm split into four different labels (EA Games, Casual Games, EA Sports and The Sims) catering to its various consumer audiences.

For global games development news as it breaks head to *WWW.DEVELOPMAG.COM*

"When I told her I work in video games the look she gave me indicated that she placed me somewhere between a drug dealer and a child pornographer..."

Will Wright accepts his BAFTA Fellowship award and explains how a stranger on a plane reacted to his profession, proving that there's still some way to go for mass market acceptance



LONDON, UK

Gamecock plans to open a small UK office to help provide a PAL element to its publishing deals with independent studios.

Founded earlier this year by former Gathering of Developers team Harry Miller and Mike Wilson, publisher Gamecock's activity – which puts the developer first and relegates the publishing role to mere distribution – has been building over recent months.

The new UK office is expected to be staffed by the end of the year.

"We'll be so much better off having a presence over there and really controlling the marketing, PR and creative," Wilson told NextGen.biz. "It's mostly about us trying to give our developers the best deal we can across the PAL territories too. When doing a co-publishing deal, it's really hard to do that."

LYON, FRANCE

Plans continue to build for December's Lyon GDC and accompanying Game Connection Europe. The conference has secured Crytek boss Cervat Cerli as keynote speaker and sessions from the likes of Microsoft, NCsoft, Ninja Theory and Sony. *More information can be found in our Q&A with organiser Pierre Carde, on page 13.*

SOUTH MUMBAI, INDIA

Electronic Arts is looking into the possibility of opening a new game studio in India, the general manager for EA in the region has revealed.

Speaking at recent game showcase event EA Experience in South Mumbai, Ajay Khanna commented: "EA obviously has various global development studios. They look at various countries, where they set up studios. India clearly is one of the countries that is being studied for future potential to set up a studio."

He added: "As of now, we don't have any firm plans, but when we do have, they will have an announcement." EA does already have a base in the region – alongside its publishing offices for PC and console titles, it has a mobile studio focused on testing and, more recently, developing mobile titles.

GLOBAL REPORTS

USA: MYSPACE GETS GAME

NewsCorps' social networking site MySpace has teamed up with casual games specialist Oberon Media to produce MySpace Games, a new channel on the site that lets users embed games in their profiles. The games will be available in single and multiplayer flavours and backed with text chat functions. The two companies want to active get developers contributing new titles – an official SDK is to be rolled out to help developers create games specifically for the games channel and studios are invited to submit games via **myspace@oberon-media.com**

AUSTRALIA: GAME POLITIK

While UK devs watch to see how the local Government may act on tax breaks, the opposition government in Ausutralia has promised the Game Developers Association of Australia that it will set up a review board to examine tax breaks for local studios if it gets elected into office. In the country, local film and television producers get a 40 per cent tax rebate – the GDAA has been lobbying throughout the the year that the credits be extended to games firms as well. **www.gdaa.com.au**

USA: SCEA ADS UP

Sony Computer Entertainment America has opened its own in-game advertising business unit. Headed by Darlene Kindler, who most recently worked for in-game ad firm Adscape Media which was acquired by Google earlier this year, the division will be overseeing SCEA's strategy for in-game marketing for all PlayStation platforms and PlayStation Network. SCEA is currently working with Nielsen to develop measurement systems for game network ads. **us.playstation.com**

UAE: ARABIAN RIGHTS

Warner Bros has signed a deal with the Abu Dhabi Media Company and property developer Aldar to develop various media ventures, including videogames, in the United Arab Emirates region. Warner Bros is investing $500 million in the project, which will give Warner Bros Home Entertainment the worldwide rights to publish any games created by the fund, which will include both games created with Warner Bros IP and third-party products. **www.wbie.com**

THE DEALS

OFF ON A TANGENT
HP is using WildTangent's games and technology to power the new 'HP Games Console' service it is building into its upcoming line of laptop and desktop PCs.

BRUTAL AGREEMENT
Sierra is to publish the next game from *Psychonauts* creator Double Fine (the studio headed by Tim Schafer). The game, *Brütal Legend*, stars actor Jack Black.

THIS ONE'S A KEEPER
Namco Bandai is to publish Japanese studio Robot's mobile adaptation of puzzler *Zoo Keeper* in Europe.

SINFUL DEAL
US firm Red Mile has signed up studio Union to develop its game adaptation of the *Sin City* comics. The company has also hired Flint Dille, friend of *Sin City* creator Frank Miller, to help with the design and storyline of the game.

SUMO HITS AN ACE
Sega has signed up the Foundation 9-owned Sumo Digital to make *Sega Superstars Tennis*, a PS2, PS3, Wii and 360 game that features a host of its classic characters such as Sonic, AiAi, Ulala and, er, the monkey from Samba de Amigo playing tennis.

COMMAND LINE
Swedish studio GRIN has been hired by Capcom to develop the comeback game for its *Bionic Commando* franchise.

AIR LIFTED
Capcom has also signed new game *Dark Void* from Airtight Games, the studio founded by Ed Fries (he who spent an exorbitant amount of cash acquiring Rare).

WIDE DOWNLOAD
GarageGames has found its first partner for new in-browser games platform, InstantAction.com. Wideload's short-session game division Wideload Shorts will release *Cyclomite* on the platform – the game is due early next year.

NATURAL HERO
London-based studio Firefly has signed up to use NaturalMotion's Morpeheme animation engine in its upcoming game, *Dungeon Hero*, which is to be published by Gamecock.

DEVELOPER CHART

OUR MONTHLY RANKING OF THE WORLD'S STUDIOS BASED ON UK GAMES SALES

OCTOBER 2007

THIS MONTH	LAST MONTH	STUDIO DETAILS		BEST SELLING GAME
1	NE	BUNGIE		HALO 3 (XB360)
2	▲ 9	EA CANADA		FIFA 08 (PS2, PS3, PSP, XB360, WII, PC)
3	▼ 1	NINTENDO		MORE BRAIN TRAINING FROM DR KAWASHIMA (DS)
4	▲ 24	EA LA		MEDAL OF HONOR: AIRBORNE (XB360, PC)
5	▼ 4	2K BOSTON/2K		BIOSHOCK (XBOX 360, PC)
6	▲ 17	EA SALT LAKE		TIGER WOODS PGA TOUR 08 (Wii, PS2, PC)
7	▲ 139	EA TIBURON		TIGER WOODS PGA TOUR 08 (PS3, PSP, XB360)
8	▼ 6	MAXIS		THE SIMS 2: BON VOYAGE (PC)
9	▲ 73	MIDWAY		JOHN WOO PRESENTS STRANGLEHOLD (XB360, PC)
10	▲ 11	UBISOFT (FRANCE)		TOM CLANCY'S GRAW 2 (PS3, PSP, XBOX 360)
11	▲ 33	INTELLIGENT SYSTEMS		SUPER PAPER MARIO (Wii)
12	▼ 39	EA REDWOOD SHORES		MYSIMS (Wii, DS)
13	▼ 3	TRAVELLER'S TALES		TRANSFORMERS: THE GAME (PS3, PS2, PC, XB360, Wii)
14	NE	PARADIGM ENTERTAINMENT		STUNTMAN: IGNITION (PS2, PS3, XB360)
15	▼ 2	GAME FREAK		POKEMON DIAMOND (DS)
16	▲ 29	CODEMASTERS		COLIN MCRAE: DIRT (PS3, XB360, PC)
17	▼ 8	UBISOFT (MONTREAL)		SURF'S UP (PS3, PS2, PC, XB360, Wii)
18	▲ 16	CAPCOM		RESIDENT EVIL 4 (PS2, Wii, GC)
19	▼ 5	HUDSON		MARIO PARTY 8 (Wii)
20	NE	REALITY PUMP		TWO WORLDS (PC, XB360)

CHART KEY: ▲ UP ON LAST MONTH ▼ DOWN ON LAST MONTH ■ NO CHANGE IN POSITION **NE** NEW ENTRY □ INDEPENDENT STUDIO

CHART COMMENT

It's no surprise to see newly independent Bungie (this month's cover feature) lording it over the UK sales charts, given that *Halo 3* is, according to publisher Microsoft, 'entertainment launch of the decade'. The game has made $300m globally (and counting) – a chunk of which went through UK tills.

More impressive is that the studio's single game managed to take an axe to Nintendo's previous reign at the top. While the firm sits at number three in this month's list, in the past year the format-holder has had a nearly untroubled run as the best-selling developer in the UK, its rule only challenged by Vicarious Visions (and its multi-SKU behemoth game *Spider-Man 3*) and Microsoft's Turn 10 (with its best-selling *Forza 2*).

Staple titles *Brain Training* on DS and *Wii Play* have boosted the firm as its consoles continue to enjoy a userbase explosion.

Elsewhere it's clear that the spoils of the UK market are also being fought over – in the majority, anyway – by games for Nintendo and Microsoft formats.

Fifth-ranked 2K Boston/2K Australia's Xbox 360/PC game *Bioshock* continues to do the business and Midway has also benefitted from a 360 uplift, shooting up from 73 to ninth in the chart thanks to *Stranglehold*. EA LA did best from 360, however, shooting up to fourth thanks to sales of *Medal of Honor: Airborne*.

The Wii, meanwhile, has boosted work done by EA Redwood Shores (at 12th thanks to *MySims*) and EA Salt Lake (at sixth following sales of *Tiger Woods*).

Of course, there's still no denying the sheer brute force of a multi-platform approach – just ask EA Canada, which shoots up to second thanks to *FIFA 08*, developed for almost every major format available – PS2, PS3, PSP, 360, Wii and PC.

ChartTrack

ELSPA Entertainment and Leisure Software Publishers Association

World Class Games

Ubisoft's UK studio is hiring for the following positions:

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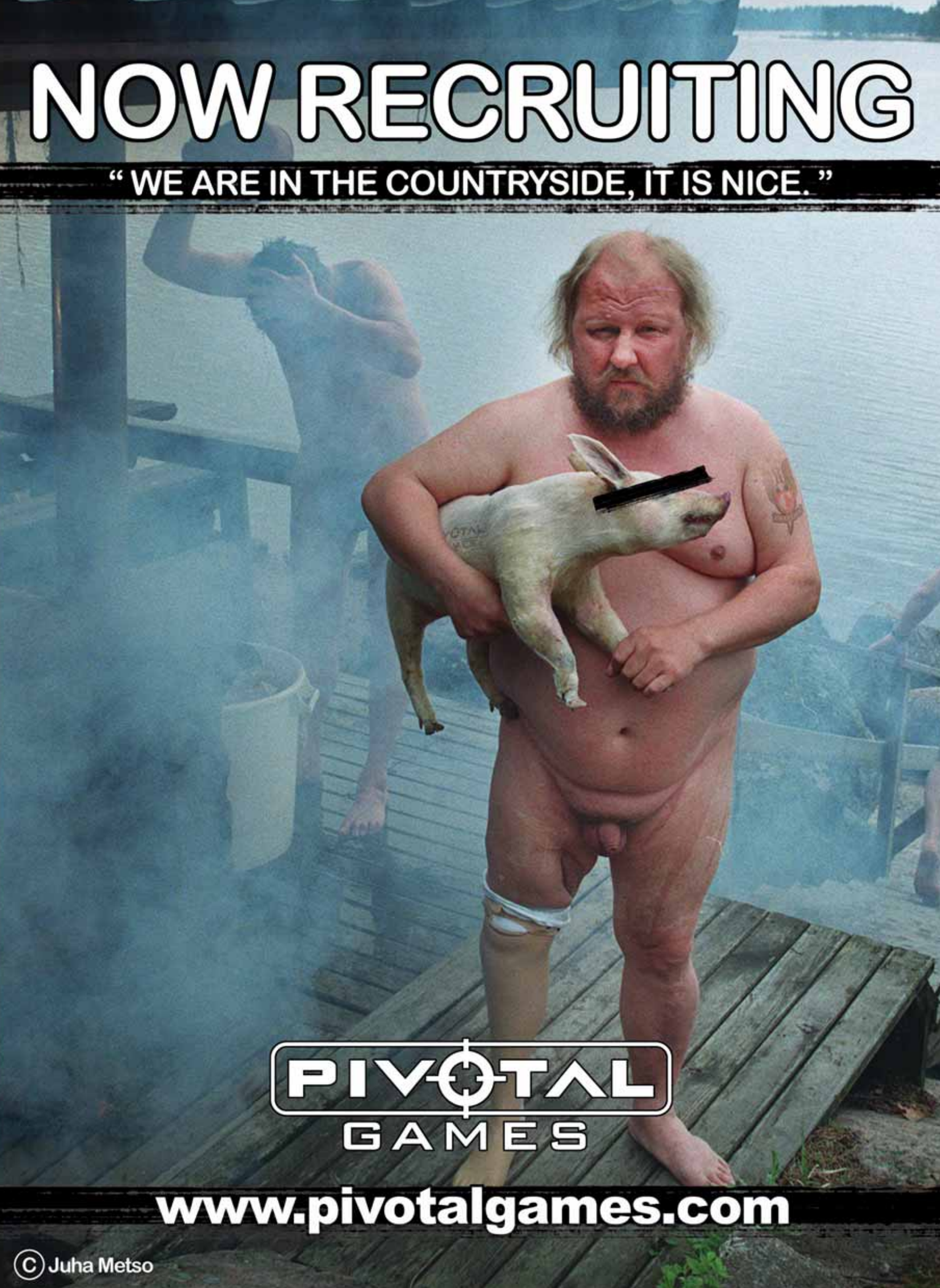
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Pride of Lyon

Earlier this year, Game Connection organiser Connection Events and GDC host CMP announced Lyon GDC, a new conference taking place in France this December. Combining Connection Events' B2B meeting place with GDC's conference content, it's a first. Michael French spoke to organiser Pierre Carde to find out more…

Firstly, can you tell us how the event and the partnership between CE and CMP came about?
The idea for this event was driven by the industry itself, especially Southern European game industry professionals as no events up to this point have addressed the issues of this region's game developers in particular. We've actually been toying with the idea for two years and felt that this year would work best.

With six years of Game Connection behind us, Connection Events has developed true expertise in bringing events to the videogame industry. Through the years, we have built an extensive worldwide network, and we listen carefully to the expectations of the European industry. This region is blessed with incredibly talented game developers who badly needed an event to share their expertise with peers. Connection Events – in partnership with the GDC – was more than happy to make that possible

What's the relationship between the GDC and Game Connection in terms of how people attend and buy passes?
The two events are taking place the same week and at the same location, but don't share the same objectives and don't really target the same audience. Game Connection is very business focused and attracts mainly managers and biz dev people. GDC is technically focused and aims at providing expertise and shared experiences with both professionals and technicians. We expect less than 20 per cent crossover between the two events.

'Next-Generation Games' and 'Cross-Platform Development' are the main themes for the conference – why did you choose those?
The underlying question here is 'Can we speak about 'next-gen' at this stage?' Our answer is 'yes' because the 'next-gen' market is growing rapidly, but lots of developers are not ready to commit at this stage to develop 360, not to mention PS3 games. PS2 is still alive, even if it is frowned upon by some publishers who do seem to remember that PSone sold strongly two to three years after the launch of the PS2, and the Wii is considered a 'Super GameCube'.

We chose these themes because we understood from developer feedback that they are concerned with this new challenge of developing for 'next-gen' consoles as they are so different from one another. At the same time, developers are being asked to be specialists in a genre on multiple platforms. As such, these two themes seemed very appropriate, especially in Europe where the game community is much more fragmented.

Game Connection has been running since 2001 – how has it evolved in that time?
The first convention took place in Lyon in December 2001 and attracted 27 French developers and 20 international publishers. Six years later, the Game Connection is now active in the three main video game markets with Game Connection America, at GDC, launched in 2004 and Game Connection Tokyo, at the Tokyo Game Show, launched in 2006. Last year Game Connection brought together more than 195 development studios, 65 service providers, and 205 publishers and service buyers, representing a total of about 80 countries.

"When it comes to marketing developers cannot remain in publishers' shadows forever…"

LYON GDC & GAME CONNECTION EUROPE

When?
December 3rd to 6th
Where?
Centre de Congres, Lyon, France

www.lyongdc.com

At the very beginning, the event was focusing only on developers willing to pitch their projects to publishers. It is now a unique market place for games (from concept to finished games) and services (outsourcing, QA, Localisation, middleware).

You must have a fairly unique view on how the games market has changed in that time as well – what is the biggest issue for developers right now?
The key developer issues I see today include:

Innovation. With Wii and DS representing the largest market share, developers (and publishers) must be ready to innovate to meet the expectations of a widening market. Gameplay innovation is particularly key.

Marketing: Developers cannot remain in the shadow of publishers forever. They need to operate more independently and be able to market their company and games more adeptly.

Distribution: The evolution of the industry with the growth of local and regional developers and publishers, and digital distribution is going to have a strong impact on the development community.

Information: Most studios (especially in Europe) are blind when it comes to market growth and market share data.

Recruiting: In this growth period, finding the right staff is essential.

And how is the event going to be tailored to address all those things?
At the Game Connection, we will address properly the first three issues by promoting new ideas and innovation globally with all our exhibitors, but will also help smaller companies to come to the event for free.

Regarding GDC, the event will address the issue of innovation of course with many sessions on next-generation platform and a lot of space left to design sessions on all platforms. Many of the most innovative games launched in 2007 will be at Lyon GDC this year.
www.lyongdc.com

The Develop team will be out in force at Lyon GDC and Game Connection Europe - to arrange a meeting contact the editor via Michael.French@intentmedia.co.uk. To be part of our bumper-sized special issue distributed at the events contact Katie.Rawlings@intentmedia.co.uk.

‘We aren’t weak,’ say UK independents

Britain’s studios warn against overly negative commentary as UKTI Playing for Keeps report is published

The report compiled for UKTI, BERR and Tiga on the competitive state of the global games industry – and what it means to the UK – has been officially published following our exclusive extract last month, but notable Britsoft firms have warned against dwelling in bad news.

Playing for Keeps, compiled by Games Investor Consulting says, as we reported last month, that the UK may fall into the ‘IP poverty trap’ as poor access to finance, risk-averse publishers and tax credits in other territories put a possible dampener on investment in local studios.

Frontier’s David Braben, however, has told *Develop* the report ‘misses the point’.

“The tax and regulatory regime has toughened in the UK, educational standards are slipping, and incentives abroad and the strong Pound are making our competitors relatively cheaper,” he said are the real threats to the UK.

He added: “The UK is still a hotbed of talent, but it is being hobbled. Private finance judges success by profitability, and that is harder to achieve in the UK than in, say, Canada, so it is not rocket science that it may have reduced in the last few years.”

From left to right: FreeStyle’s Chris Lee, Relentless’ Andrew Eades, Frontier’s David Braben, and last month’s story on the contents of the Playing for Keeps report

Other studios fear that the report’s reception could conjure up an image of UK studios too busy worrying about their future to focus on the present.

“I think the research conducted by TIGA, UKTI, DTI and the team at Game Investor Consulting is extremely valuable and worthwhile. It’s important we continue to recognize and address the challenges we face, not only in the UK, but as a rapidly growing and maturing worldwide industry. However, I do feel we need to ensure we don’t become overly fixated on our troubles and dedicated as much time to celebrate our success and the fact that even with the inevitable challenges of such a creative and rapidly maturing industry, the UK is still a powerful force on the world stage,” said Freestyle Games’ Chris Lee.

“The constant repetition of how hard done by we are as the UK games industry will inevitably rub off on prospective investors, employees and overseas publishers looking for content.”

Andrew Eades of Relentless added that some of the reports warnings over ownership of IP and lack of tax subsidy in the UK may not be relevant to the country’s

Will UK studios fall into the ‘IP poverty trap’?

Government report explores international development sector, revealing potential long term threats to UK

"Outdated business models are creating a bottleneck..."

developers: “My experience of Montreal was of a thriving game development community populated by people passionate about making video games; no amount of subsidy can create this,” he said, adding that “IP is not the Holy Grail; Bizarre don’t own *PGR*, Harmonix don’t own *Guitar Hero*, Evolution don’t own *MotorStorm*.” He also expressed concerns over the image of studios the report might paint: “The UK games industry needs to focus on getting proper investment in by telling an optimistic story; no investor is going to invest in this story of gloom and doom - it’s a turn off.”

Our second extract from the Playing for Keeps report, looking at the various business models for games development, can be found starting on page 34.

DEVELOP DIARY

YOUR COMPLETE GAMES DEVELOPMENT EVENT CALENDAR FOR THE MONTHS AHEAD...

NOVEMBER 2007

IGDA LEADERSHIP FORUM
November 8th and November 9th
Airport Marriott, San Francisco, USA
www.igda.org/leadership
The IGDA and its Production SIG join together to host an event dedicated to advancing the art of game production and management, tackling topics such as scheduling, post-mortems and team management techniques. Bioware’s Ray Muzyka and Greg Zeschuk and Double Fine’s Tim Schafer are among the confirmed speakers

MONTREAL GAME SUMMIT
November 27th to 28th
Palais des Congres, Montreal
www.sijm.ca/en
The Quebec province’s trade association hosts its annual conference, this year boasting a new serious games element, business meeting place and a host of sessions. Confirmed speakers include David Perry, Nintendo’s Koizumi Yoshiaki, EA’s Chris Hecker and consultant Jonathan Blow.

DECEMBER 2007

LYON GDC
December 3rd and December 4th
Le Palais des Congrès de Lyon, France
lyongdc.com
Game Connection and CMP team up to host 60 classes over a two-day period, running concurrently with the Game Connection ‘business matchmaking’ event in France (below).

GAME CONNECTION EUROPE
December 4th to December 6th
Le Palais des Congrès de Lyon, France
www.game-connection.com
The popular Game Connection event returns for another year of games industry speed dating.

JANUARY 2008

TORONTO INDEPENDENT GAMES CONFERENCE
January 17th to 19th,
www.torontoigc.com
Developers based in Toronto get their own event.

FEBRUARY 2008

DICE SUMMIT 2008
Feburary 6th to 8th
Red Rock Casino & Resort, Las Vegas
www.dicesummit.org
The yearly conference for execs, plus the US’ Interactive Arts and Sciences Awards, returns for another year. Big name speakers have already been lined up, with Microsoft’s Shane Kim, EA’s John Riccitiello, Lorne Lanning and Ubisoft Montreal CEO Yannis Mallat set to deliver keynote talks.

CASUAL CONNECT EUROPE - WEST
February 6th to 8th
Felix Meritis, Amsterdam, Holland
amsterdam.casualconnect.org
The casual games association hosts its regular conference for Western European studios, publishers and biz dev people looking to get into this fast-growing category.

GDC 08
February 18th to 22nd
Moscone Centre, San Francisco, USA
www.gdconf.com
GDC returns a month earlier than usual, with its usual blend of sessions, business opportunities and expo show-floor fun. Along with the three days of main conference and expo (February 20th to 22nd), the week long event includes GDC Mobile (February 18th and 19th), and the Independent Game Festival (February 20th to 22nd).

GAME CONNECTION AMERICA
February 18th to 22nd,
Moscone Centre, San Francisco, USA
www.game-connection.com
Next stop GDC and USA for the popular B2B meeting place event.

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VARIABLE DECLARATIONS

by Owain Bennallack

Making money every which way

The music industry is repositioning its many hungry mouths to generate income without relying on physical media sales. Will the games industry follow?

A 360-degree deal might sound like a skate move from the latest *Tony Hawk* title to a developer's ears, but there's more to it than meets the eye – or the ear. The term is increasingly common in the music industry, from EMI's £80 million signing of a stake in Robbie Williams' entire output in 2002 to Madonna's recent $120 million deal with event and merchandise company Live Nation. It describes a commercial exploitation agreement covering every way of milking a property, from traditional CD publishing and ticket sales through to management, merchandising, and licensing income.

Such deals have been touted as the salvation of the music industry, where, according to a recent BBC report on the business' future, global recorded music revenues have fallen from $25 billion in 1999 to just under $20 billion in 2006.

Games developers have signed what were effectively 360-degree deals for years without realising what they gave away – or accruing much benefit. And with British independent studios now reportedly already on the endangered species list it's a bit late to suggest retaining more ancillary rights to intellectual property.

Madonna recently made headlines by signing an all-encompassing $120m 360-degree deal that covers merchandising, events and music. How long until developers wise up to what potential lies in such deals?

"Games companies have faired badly when leveraging their IP on other media..."

NEW BATTLEFRONTS

Nevertheless, it's interesting to consider parallels between games and other media with respect to alternate income sources.

As everyone knows, music was the first recorded media to fall to widespread piracy on the Internet; even iTunes is only a tiny upbeat note in the slow dying dirge of the death of the old business model.

Movies are succumbing to pirates, too, but are protected somewhat by the 'event' of seeing a movie at the cinema, as well as by the sheer amount of data that needs to be downloaded for high fidelity.

As for games, they've been vulnerable since the 8-bit home computer days. Indeed, pirates arguably killed platforms like the Amiga – not something IP infringement has yet managed to do to a major music label. What's more, since the demise of the arcades, games boast no physical 'event' destinations where IP holders can recoup their investment safe from the pirate's reach.

But there are other ways in which games can and have benefited from 360-degree deals, if only to a limited degree.

For instance, we've seen toes dipped into making game-based movies, though for every reasonable success like Angelina Jolie's *Tomb Raider* there's been half a dozen dismal outings. More successful have been efforts with merchandising, such as Nintendo's success in putting a *Pokémon* on every other lunchbox. There have also been a few books and comics, and in Japan a roaring trade in *Final Fantasy* costumes.

On the whole though, games companies have faired badly when leveraging their IP to make money from other mediums. Indeed, when people say games are trapped in a narrow ghetto, it's more true of the properties themselves than the ever-widening audience demographic. Going cross-media isn't easy.

ONLINE GAME BLING

While licensing to Hollywood et al remains an elusive opportunity for games companies, they've their own tricks too – such as the endless new platforms with an appetite for old content, and which are often, at least to begin with, more pirate proof. Mobile phone games are an obvious example.

But it's online that's gaming's richest non-traditional seam to mine – not only with piracy-thwarting monthly memberships, but increasingly in the future with micropayments and competitive battles that steal ideas from low stakes online poker games.

How many *Halo* deathmatchers would rather play with 50 cents each in the pot? Many, I'd wager. Brainstorm for 20 minutes and you'll come up with a dozen ways for games companies to make money without selling games directly, despite our lacking pop's poster boy crowd pullers.

It's generally games publishers who'll face these challenges and reap any rewards. And they know it; even die hard Japanese publishers like Capcom have been making noises about more creatively exploiting the cult IPs they create.

But such strategic direction isn't only of academic interest to those nearly extinct indie game studios, where even earnings from traditional royalties are as rare as visits from the Queen. The pressing question for developers is how to create flexible game properties that can sweat it out across multiple revenues streams.

In the short term, it surely means more furry, fluffy and easily exploited critters getting made into game form on the whim of a producer chanting the mantra 'merchandising'. Anything less would be a 180-degree U-turn.

Owain Bennallack is executive editor of *Develop*. He edited the magazine from its launch until its February 2006 issue. He has also worked at *MCV* and *Edge*, and has provided consultancy and evaluation services to several leading developers and publishers. He is also chairman of the *Develop* conference advisory board.

STUDIO PROFILE

Head to **www.developmag.com/studio-profiles** for more

MILESTONE

MILAN, ITALY

FOUNDED: 1996

KEY PERSONNEL:
Antonio Farina (founder)

SOFTOGRAPHY:
SBK-07 Superbike World Championship (PS2, PSP, Xbox 360, PC - 2007)
Super-Bikes Riding Challenge (PS2, PC - 2006)
Evolution GT (PS2, PC - 2006)
SCAR - Squadra Corse Alfa Romeo (Xbox, PC, PS2 - 2005)
Racing Evoluzione (Xbox - 2003)
Superbike 2001 (PC - 2000)

CURRENTLY WORKING ON:
SBK-08 Superbike World Championship (360, PS3, PSP, PS2, PC)
Other unannounced projects

CONACT DETAILS:
www.milestone.it

It would be hard to find a developer that didn't find itself working to the commands of a least two different voices in its head. After all, balancing the requests and scheduling commands of the publisher in one hand with the creative ideal and desire to develop a high-quality product in the other is an acrobatic trick worthy of the circus.

What is certain, though, is that Italian developer Milestone would be able to tell you a thing or two about duality. Not only does it face a confusing time maintaining its independence as part of a group of companies that also includes a publisher, the studio's specialisation in racing titles has seen the developer courted by two different publishers to simultaneously develop rival titles.

Founded in 1996 by Antonio Farina (*pictured left*), Milestone first developed the PC racing title *Screamer* for Virgin Interactive, firmly setting in place its roots as a specialist in the racing genre. From that start blossomed a company that eventually broadened its horizons to also include console and interactive TV games.

"We've had a typical evolution that I think everyone's experienced," says Farina. "We started by developing for PC, and only one console at a time. Then we switched to console, with *Racing Evoluzione* on the Xbox, but that was still a case of everyone working on just one project on one console."

INDUSTRY LEADER

In 2002, Milestone joined the Leader Group, a cabal of companies that covers all areas of the game chain, including development, publishing, marketing, communication and distribution.

Yet, despite having an affiliated publisher, Milestone is quick to assert its position as an independent studio.

Initially, comments Farina, when the company joinied the Leader Group they only worked with their sister publisher Lago. It soon became apparent, however, that working with other publishers would actually be positive for all parties involved.

"When you work inside the same company you tend to lose sight of the market a little bit, which makes you a weaker company – so we decided to do development for other publishers and it benefits the both of us. And Lago is exactly the same – they publish both our titles and games from other developers."

It was becoming part of the Leader Group that enabled the company to grow and accommodate simultaneous multi-platform, multi-title development. One of the titles the team is currently working on is set for release on five platforms, and yet the studio remains small, with 55 employees at the time of writing. "We use a lot of outsourcing, particularly on the graphical side, but we're also starting to do the same on the programming side as well," he adds.

"We're getting organised to be flexible and make sure we can bring opportunities into the company without having to grow to strange sizes. The way we are now is a good size for keeping things under control."

Keeping control is something the studio has to be very careful of. Specialising in racing

games lead it to develop a name for itself in the field, which lead to the strange situation the company currently enjoys.

It's not often that there are many studios that are developing two similar, competing titles for different publishers, but that's exactly the situation Milestone currently finds itself in, with it working on the *Superbike World Championship* licence for it's Leader Group cohort Lago and the PS2 *MotoGP* licence for Capcom.

It may be strange, says Farina, but it's a situation that actually benefits both publishers. "The experience we get in specialising in two similar licences, from a development point of view, is something that helps publishers to be more confident that the product can be of high quality.

"There's extra things involved in creating a licenced title – maintaining a relationship with the licensors, obtaining data from across the world, dealing with approvals etc. So we have experience in this part, which is very delicate."

HITTING MILESTONES

But, of course, balancing the efforts for the publishers is difficult, to ensure that neither feels that they are losing out to the other or receiving an inferior product. Key to managing this, Farina explains, was the identifying of different markets for the two titles.

"Although the two licences look similar from the outside, in reality the *MotoGP* licence is more mass-market, it's stronger, while the Superbike licence is more for those with a large passion for bikes.

"So we tried to differentiate this. Confidence from the publisher comes from how professional you are in identifying the unique strengths of each product, and we try to work together with the publisher to decide how to exploit the licence in the best possible way," he says.

And with the recent spate of specialised racing studios being bought out by big publishers, it's a good thing that Milestone has come to terms with this sort of duality – being one of the few remaining independent racing studios puts them in a perfect position to accept more of it into its life in the future.

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CONSOLE GAMES

Game on

Bungie jumped, Bizarre was bought, and Bioware went to EA – if you believe the pundits, the past month has been tumultuous and troublesome for Microsoft Game Studios' as its development partners go elsewhere. But MGS general manager Phil Spencer would beg to differ, as he explains to Michael French …

Let's start with the the Bungie divestment – what are your thoughts on what has happened?
Being a game publisher means you have to properly manage that relationship with the creative talent. That is the strength that we must nurture – so when you build a partnership with a studio you have to acknowledge what will help make it strong as it can be, and as collaborative as it can be. Sometimes those relationships require an acquisition; sometimes there's cards on the table, like IP ownership or sequel rights.

In terms of Bungie, our relationship with them now has never been stronger. Our relationship over the future of *Halo*, and at the same time making new *Halo* games, is probably at the most collaborative point it's ever been at – and that's what it's all about. People can sit back and say 'no, you have to have this kind of relationship with a developer in order to get what you need', but that's not really a long-term strategy. The right way to do things is just make sure the publisher and developer trust one another.

Do you think they'll be stronger and working harder now that they are out of the comfier confines of being an in-house team?
I've got complete confidence in Bungie's ability to run itself as an independent entity – as it did before we acquired them. I don't know if they'll be stronger as a studio in the long-term – I'm not convinced of that. And I don't know if the strains of running a business on their own will hurt or help them. I do think that, however, the 'live or die' mentality that comes from being on your own, the kind of entrepreneurial spirit that kicks in, will really help the team re-motivate themselves.

Microsoft Game Studios' general manager Phil Spencer

Bungie has made *Halo* games for quite a while – look at a studio like Rare, or some others out in the industry that has the chance to work on multiple projects, Bungie needs to get to that point. So where they are now should help them expand as they control their destiny.

What does the Bungie move say about Microsoft's attitude towards acquisitions – are you moving away from them?
There's really no formula we're running at Redmond saying how many in-house or independents we want to have. It's on a case-by-case basis and looking at the kinds of games or relationships we want to have. If a studio came to us today with an idea we'd talk to them about what they want to get out of the idea, what we as a publisher want out of it, and then build the business relationship between the two to make sure we both get what we want. I remember about five years ago I was sat in Las Vegas with Epic about a game called 'Warfare' – which turned into *Gears of War* – and talking about our relationship, and working out that relationship from the beginning to make sure that the end result was something we'd both be happy with. So that's one example which has been fruitful but doesn't mean we have to own them. Of course there are partners like Rare or Lionhead, a more recent acquisition, were you end up at a different result but still have the same great relationship.

And what was Microsoft's reaction to Bizarre's acquisition that?
I love Bizarre Creations, I think they're a great studio, and we've known them for a long while – they've helped us launch two platforms. I look at them as pioneers on Live with *PGR2* and I will miss working with the team, but this opportunity came along for them. For where Martyn [Chudley] wanted to focus right now, and where he wanted to take the studio, it was right for them. We did talk to them before they made the final call on it, and in the end we had to look at what they wanted versus what we might have done with them. But it was best that they followed their hearts, and I wish them well. And it's a small industry in some ways – who knows what will happen in four or five years or who we might be working with then – so it was best for us to make sure our relationship supported them.

I will miss working with them, but we are committed to *PGR*, and we will find other ways to get *PGR* done.

So are you looking for another team to get that game done?
We don't have any clear set answer for how *PGR5* might come to market yet, but we're looking at a lot of different alternatives right now. Obviously [*Forza* creators and internal MGS studio] Turn 10 is a strong team, and they're really focused on *Forza* and it's doing well so I wouldn't want to distract them, but it is an option. And of course there are some great independent racing studios we are going to talk to as well. We have a real place for *PGR* in our portfolio, and we know what it means relative to *Forza*, and some of the third party alternatives are not comparable.

PGR does really well as a European property as well – it does really well as a global franchise too, but the sensibilities that come from a

"Quicksand in Microsoft Game Studios' foundations? No way..."

Spencer says that the MGS portfolio accomdates a fairly vast array of IP and ideas, naming Viva Pinata, Scene It, Blue Dragon and Too Human as favourites and key examples

studio in Europe really shows in the sales success it has had.

In terms of another acquisiton, the BioWare/EA deal has been perceived as a blow to MGS as well, especially as you're publishing *Mass Effect*, and have presumably lost the potential sequel to that game...
Don't assume that – we're having discussions with BioWare. The first *Mass Effect* is still to come out, and I don't want to get away ahead of that – the game has been built completely by that developer's rules; it's BioWare telling a story the way they want to tell it. So firstly I want to see how gamers respond to that. As for our future in that franchise – we feel very good about it, it's still something that plays an important part in our portfolio, BioWare are a great partner, and I'm looking forward to discussing what we can do with them.

But with the Bioware, Bizarre and Bungie news, many have speculated that it's a sign of weakness on MGS' part. One news site said the foundation of Microsoft Game Studios seems to be "built on quicksand".
I will say – and I mean it respectfully – that I find it all a little humorous. I don't think people sometimes completely understand the relationship between a publisher and a developer. But I know what our relationships with our partners are, and I know the collaboration. I think speculation is fine – it's good to have smart people talking about what's going on. But I think this time next year, when we're sat here talking about a great *Banjo* game or a great *Fable* game, or other upcoming games, it will all be a distant memory. I understand the speculation – but quicksand in our foundations? No way.

So there are no problems, as people have assumed?
Not at all. In fact, I don't think there's been a time at MGS when I've been able to go back 12 months and look forward to see how great our portfolio has done.

You talk about one or two future games there. Over the past 12 months MGS has been prolific – *Halo 3 Crackdown, Forza 2, Blue Dragon, Shadowrun* and others – the speculation about your relationships with developers has also commented the lack of noise around 2008's titles...
Well there are games announced that are due next year – *Fable 2, Banjo, Halo Wars*. Those are some big games coming up. There are other games that will come.

One of the things we don't want to do now is getting ahead of ourselves and showing games too early. I don't think we do a service to our games community when we show games which we're not completely sure of *what* games they are going to be. I have a real sense of responsibility to those consumers that have bought our platform, and want to be comfortable that when we show a game we have belief in that game and think it is representative of what it might be when that game comes out. I've seen games too early – or even things shown that aren't the game, to try and build excitement about that game, but for us I'm not about doing that. For instance: we preferred to show *Halo* through the *Halo* Beta and actually show people 'Here's where we are' and let that progress through the summer – that means we're playing fair with our audience.

Certainly there has been a tendency in the past with some titles to release press assets that aren't exactly accurate – do you think that ends up hurting the hype?
It certainly makes people ask questions. When we're asked what's coming up in the next two to three years, well, there's tons we're working on and we're going to show them – not 'when they're ready', or play some egotistical trick – but show them when they are ready to be shown.

One the experiences I've really learnt from the past few years was showing *Too Human* at E3. I'm proud to say that the game has really turned itself around – but we showed it too early back at that E3 – both Denis [Dyack, head of *Too Human* creator Silicon Knights] and I will put our hands up and admit that. Now we've since had a press event at the studio and had a great response to the game –, and we've learnt to show a game when it's ready.

It's been six months since Microsoft Game Studios officially opened in Europe – what's progress been like?
We've built a team here now. Key for us is finding great European talent to help us both understand the development community here better, and more importantly understand the gamers in the European community. Our portfolio now, and the games coming over the 12 months, is very well targeted towards different groups – but I think we can do better at that. So helping us have a base of publishing here, filled with people who are from here will help us achieve that. And clearly for us the basis of our success is building good relationships with creative talent – that's our number one focus overall.

So have you found games ideas in Europe that you're publishing or are you still looking?
Well, we're always looking for good ideas. One of the strengths we've had in the life of 360 to date has been the strength of new IP we've brought to the portfolio – things like *Crackdown*, or something like *Too Human* or *Gears of War*. Finding those games has been very much about talking to the talent behind it and asking them what they want to make and discussing how we, as a publisher, can work on those games. We've definitely going to have other similar such fresh ideas come from European developers.

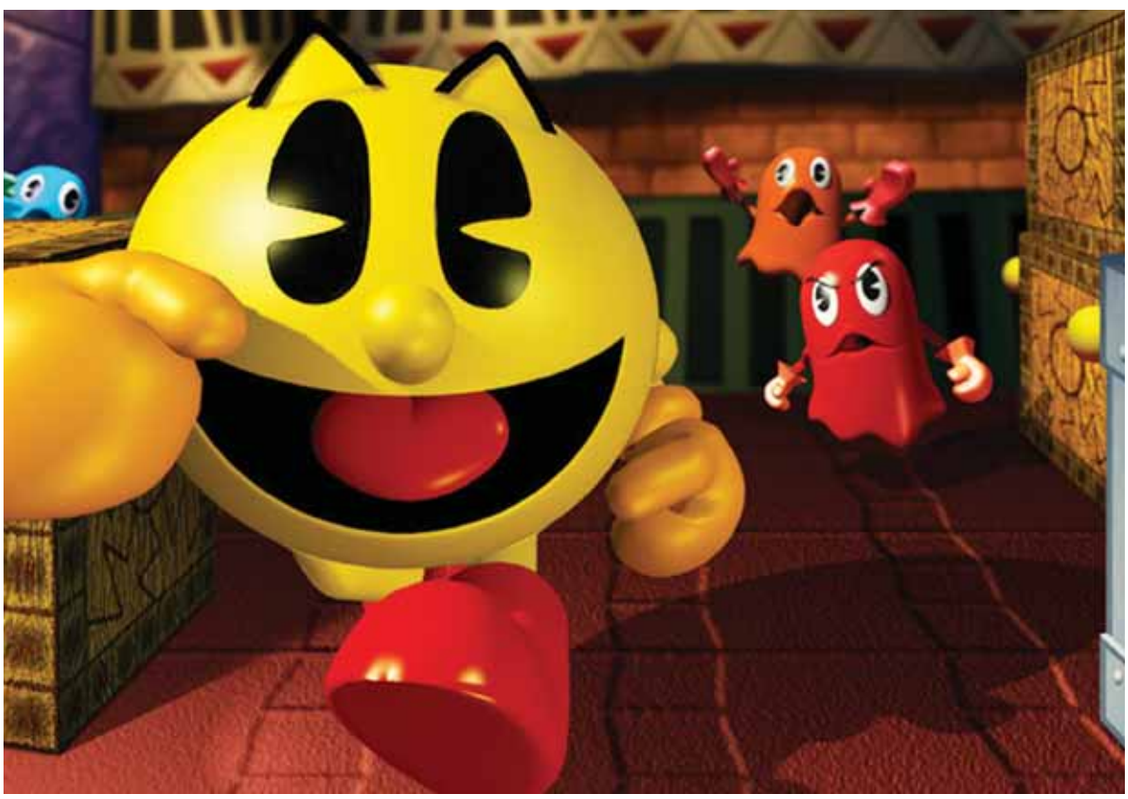
Do you now think you're competing better for European talent compared to those publishers – and format holders – which have been more active in Europe?
Well, there are a number of publishers with headquarters here who have been able to just hop on a plane to Vienna or Spain and have a quick conversation about a game. Being based here has made that easier, so we're certainly closer to talent now.

ONLINE EXTRA

For more from Phil Spencer, including the differences in developing for 360 and its rivals, why he's letting Rare make a DS game and how it will teach Microsoft Game Studios, plus his thoughts on the Silicon Knights vs Epic court case, head to **www.developmag.com**

The Tale of the Kill

Our pseudonymous design expert looks at the advancement of in-game storytelling…



No one really knows why Blinky, Pinky, Inky and Clyde pursue Pac-Man. After all these years, there is no answer, nor is there any explanation, for why the Pac-Man is devouring dots in the first place. Is it a dark environmentalist metaphor for man's dependence upon limited power sources? Do the ghosts pursue him out of simple ennui or do his dietary habits pose a threat to their existence? The story, such as it is, remains a mystery.

But games have changed dramatically over the 27 years since *Pac-Man* first chomped its way onto the scene. Role-playing games and adventure games began to deepen and enrich both the backstories as well as what could reasonably pass for plots, although storylines remained a barely necessary afterthought in the dominant 3D action category. The *Doom* marine didn't require a name, let alone a motivation, as there is no point in dialogue when interacting with a fire-spitting spawn of Hell; if a chainsaw is prominently involved, it is safe to conclude that one is not dealing with classic storytelling.

However, with the release of *Half-Life*, even the first-person shooter began to require a proper storyline. Valve cunningly designed its way around the artificial intelligence problem by making use of scripts and goal-oriented level design, thus creating a clever means of ensuring that the player's choices would keep him moving forward on the pre-arranged path while preserving the illusion of complete freedom of movement. This design technique was not only hugely successful but allowed for the use of much more sophisticated storytelling within the game medium.

In fact, these days storytelling has become an increasingly important aspect of the game design process, as one can see in titles like *Bioshock*, which tells a highly stylistic tale that is a bizarre amalgamation of Ayn Rand's Atlas Shrugged and Night of the Comet.

The potential problem here, however, is that few game designers are genuine storytellers. Having published a few novels myself, I can attest that while there are some similarities to designing a game and telling a long and involved story, they are significantly outnumbered by the differences. Moreover, one of the four fundamental facets of storytelling is characterisation, (the other three being plot, writing style and originality), and the game medium is particularly ill-suited to developing characters because killing them is the player's primary form of interaction with most of them. As John Romero once said, it's a lot easier to generate fear in the player than it is to create a sense of bonding, let alone love.

"The problem is that few game designers are genuine storytellers…"

Can you even imagine a game that is, at its core, a love story? The fact that the idea sounds like a logical category error indicates the depth of the challenge that storytelling poses to game designers. The medium is much better suited to experiential stories that revolve entirely around primal emotions and invoking the flight-or-flight reflex than it is to either the romance of a Shakespeare play or the surreal inaction of a Kafka story. Unless, of course, that play happens to be Titus Andronicus.

But this challenge, although difficult, is ultimately surmountable. It was not all that long ago that the literary genre known as science fiction was considered a ghetto, in part because science fiction writers were almost entirely obsessed with ideas as the basis for their stories rather than characters. Ideas still dominate science fiction, of course, and the genre's readers have not yet had the good fortune to discover a Doestoyevski or even a Flaubert, but these days they are seldom inflicted with cardboard cutouts named Oom Zarkoff whose motivations and behaviors are entirely dictated by plot requirements.

Game developers have increasingly turned towards Hollywood models of financing and production. In like manner, they will do very well to embrace the need to employ excellent literary artists in addition to the excellent visual artists they already demand. However, I sincerely hope that in doing so, they do not fall prey to the predictable, clichè-ridden storytelling that has long infested movie-making.

It may sound somewhat insane, but the truth is that electronic games genuinely offer the possibility of one day realizing Richard Wagner's conception of Gesamtkunstwerk, or Total Art, as no other creative medium has the ability to incorporate every aspect of human artistic endeavor. Games already require excellence in architecture, music and the visual arts, so we can expect that sophisticated storytelling cannot be all that far behind.

Poetry and dance, on the other hand, may take just a little longer…

The Alpenwolf *is a professional game designer who has been active in the industry for 17 years and designed games for some of the largest American and Japanese publishers. He has been known to visit Ironforge in the company of a large white wolf.*
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Q&A: Charles Stross

Former programmer Charles Stross is the author of *Accelerando*, *The Atrocity Archives* and *Glasshouse*. His latest science fiction novel, *Halting State*, concerns a crime that takes place in an MMO…

I seem to recall reading that you were intending to write a novel on a smartphone. Was that *Halting Space*?
The technology isn't there yet. I wrote some chunks on a smartphone, I think it was an HTC Titan, which is a 3G Windows Mobile 2005 phone. Phones are pretty powerful computers these days, the problem is that they're deficient in two respects: the output device and the input device.

At what point did the idea to incorporate the game development business into the novel occur to you?
Fairly early on. Originally, way back in the 1990's when I was working at a dot com, I was thinking about writing a non-fiction novel about what it's like to be in a successful one from the worm's eye view. Nothing ever came of that, but later I decided I wanted to incorporate the experience into a novel. Some of my friends are game developers and I've worked with game developers in other contexts before now, and it struck me that it was an industry that has some of the same hothouse feel as the dot com business. There's a lot of the same personality types floating around in management as well. The other critical thing was MMOs, which are clearly the first commercially viable form of virtual reality.

You have a pretty serious technical background – how much overlap was there with the technology behind today's MMOs?
What interests me most is that if you look at a Web 2.0 application and an MMO, narrow your eyes a bit and try to lose focus on the minutae, there are a lot of similarities between them. In both cases, you've got a continuous connection between a graphical front-end and a server, which is basically a front-end on a database and which may be interacting with lots of other users at the same time. We know how to do graphical and 3D work, we've been doing it for 30 years, we've just got more powerful kit to do it on. But creating virtual worlds with large numbers of users in them struck me as being an interesting subject to tackle.

I knew I was going to set the book 12 years in the future. Moore's Law sort of dictated how powerful the computer hardware would be and the first thing I noticed was that the phones of that era would be about as powerful as today's high end gaming PCs. I assumed that heads-up displays will come along and be adequate for the job and did some research on 4G phone telephony protocols, which are looking at 100 megabits per second to the mobile phone, and then I began thinking harder. Look at multicore CPUs, distributed computing systems such as SETI@home and postulate a sort of universal gaming engine where if you're a game company, you just license access to it and build your own a realm within it, sort of a dot net for games.

"We need toolkits that allow creators to make stuff at a much lower cost, so that there's less oversight needed…"

NCSoft appears to be working towards that.
This sort of thing is on the horizon. Now postulate that it's designed to run on mobile phones. When you sign the EULA for a game, you're giving them permission to use perhaps ten per cent of your mobile phones CPU power for acting as a server. You download the server as a VM image and run it on your phone, it's not the server for the game you licensed, though, it's a server for another game on the same platform, one that you have no stake in. I was sort of envisaging that this is one way it may go.

MMOs provide the background for both the plot and a lot of the action in *Halting State*. Did you do a lot of research into them?
As little as possible. Seriously, I tend to go overboard whenever I start gaming. There's a copy of *World of Warcraft* still in the cellophane wrapper mocking me from the shelf. I've managed to hold it at bay for nine months now. Games are designed to push reward buttons in our heads and spending too much time in the games rather than researching stuff around them would have been a problem.

Do you see any analogy between the MMO banks and meatspace monetary systems?
There will be parallels, but it's still very early days yet. I think the core concept to hang onto is that MMO banking isn't about money as we understand it, it's about fun. They're not primarily an exchange medium but more of a token for in-game reputation, so games are hyperinflationary by default. I suspect there's any number of economics PhDs that are going to come out of this topic over the next few years.

As an award-winning writer and sometime game addict, how do you think game designers could best improve the storytelling in their games?
That's actually a hard question. One of the major obstacles is that developing game content is labor-intensive at the present. You tend to have committee oversight and committee oversight is a bad thing for creative fiction because any idea that isn't immediately comprehensible to every member of the committee gets spiked, and meanwhile every idea that is comprehensible to everyone gets injected if the person who suggested it has enough clout.

That's part of the reason why the current plotting of Hollywood movies is dreadful – they've sunk so much money into the project that they're ultra-cautious. The result is the dumbing-down of the fictional content and on the plot-level, it's very predictable these days.

What we need is toolkits that allow creators to create stuff at a much lower cost so there's less oversight needed. That way we're more likely to get stuff that's interesting and creative.

One possibility is to use older, outdated game engines as storyboard tools. Movie makers used to use cartoonists to storyboard stuff scene by scene, but I believe it's the Wachowski brothers who have begun using machinema tools, doing it inside a game engine, to get the rough cut. Machinema is a very interesting tech that's coming along now.

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BETA

DEVELOPMENT FEATURES, INTERVIEWS, ESSAYS & MORE

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Bungie head Harold Ryan, p31

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Bungie's Harold Ryan, trying to hide the secret Halo flight sim sketches

SINGLE PLAYER

Last month, Microsoft and Bungie raised eyebrows in the industry by announcing the studio's split from its owner. Ed Fear spoke to Bungie's studio manager Harold Ryan to find out why the team has gone solo…

Kirkland, Washington. A short walk from their regular office, a ragtag bunch of game developers in the employ of Microsoft Game Studios fills an auditorium. Harold Ryan, the studio's head, takes the stage, revealing a PowerPoint presentation. He clicks his clicker, and the first slide appears: 'Bungie: a Microsoft Game Studio'. Smiling, he presses the clicker again, and almost instantly cheers erupt from the crowd as the throng jumps from its seats. The words that caused the commotion? 'Bungie: an independent studio.'

It may be a picture covered in Hollywood schmaltz, but it's nevertheless the true story of exactly how Bungie's execs communicated their plans to the studio staff – and a very telling one at that. Because despite a huge range of achievements under their belts – creating one of the biggest gaming franchises of all time and almost single-handedly defining and supporting a console – the thing that matters most to Bungie's staff is Bungie itself.

When the news trickled down to the rest of us, it caused more of a storm with consumer media than any studio deal of recent times, not to mention within the industry itself. Why would a studio want to leave the financial security blanket of a corporation like Microsoft? Why did Microsoft let them go when the *Halo* franchise (with global sales of *Halo 3* at $200m and climbing) and Xbox 360 are at the top of their game?

To shed some light on the deal, as well as explore what the rest of the industry might learn from such an emancipation, we spoke to Bungie studio head Harold Ryan shortly after the announcement to discover the real reason behind the parting.

So why has Bungie divested from Microsoft?
Well, when Bungie was acquired into the games group at Microsoft, that group itself was evolving and growing. One of the first things they tried after acquiring Bungie, after first attempting to fully assimilate them, was to move Bungie into a standard Microsoft building with the rest of the game group.

But unlike the rest of the teams they'd brought in previously, Bungie didn't move into Microsoft corporate offices – we tore all of the walls out of that section of the building and sat in a big open environment. Luckily Alex and Jason [Seriopian and Jones, Bungie's founders] were pretty steadfast at the time about staying somewhat separate and isolated.

After we finished *Halo 2* we moved out into our own building in Kirkland, which is culturally a more upbeat kind of place – it's got a good variety of clubs and restaurants and things to do around it, less clean and ordered than Microsoft offices. Our studio is more of a chaotic organisation of disciplines as we shift around – we have all our desks on wheels, so we shift around as we need to during a project.

Was that move a first step towards independence, or did you come to realise when you were there that it was an environment that better suited Bungie?
We were growing beyond our space, and where we were wasn't serving our needs properly, so they had to build us out a new space anyway. As an evolving step, it was sort of like 'hey, people will be happier if we had an environment that felt more like ours'. Looking around for locations, it was clear that some place with restaurants and bars around it would be much better for our team.

But at that time we didn't design the building quite right to be an independent company – we didn't have things like HR and finance offices in the building. It was a step in that direction, I guess you could say that once we got a taste of our own building and our own space where we had more control of things, it was pretty evident at that point that what we were really looking for wasn't just our own office building.

"If this means we'll be a break-even company instead of a massively profitable one, then that's where we'll go…"

What do you think are the core things that Bungie gets from becoming an independent again?
It's not motivation as such, but it's about the team's level of excitement and level of ownership of what they're doing. Everyone knew about the deal during *Halo 3*'s development, and I think it really made an impact on how invested people were in working for themselves. First and foremost, the first thing Bungie gets out of the deal is that level of investment from the employees.

In addition, while Microsoft has been a great partner for us – and currently we're planning on them being a great partner in the future too – should anything happen in that relationship down the road, we do have the flexibility to pick the best partner for the company.

As I've said in other interviews, though, the relationship with Microsoft and the Xbox team is really good, and obviously we've spent the last seven years developing for the Xbox so we know it really well and I don't expect us to change any time soon.

It's easy to say that Microsoft gains better work from Bungie through this new relationship, but surely Microsoft has lost something – they previously had a world-class studio that they could call 'their own', a huge asset, and now they don't?
Yeah, they've definitely lost something, but their goal has always been to have the right relationship with their partners. So to that end, having the right relationship with Bungie means there are more opportunities for us to both evolve the *Halo* universe and create new ones. Not that we couldn't do that with Microsoft – they're certainly happy to fund us to do anything – it's just a matter of how creatively motivated the artists and designers are. Their level of happiness has a direct impact on the quality and engagement of work they do.

Bungie made the first move, right? How did Microsoft react to the proposal?
Their initial reactions were: 'Oh, you have things you want to change about profit sharing, and the way the office works, or your control over marketing.' We were very open to the discussion and, to their credit, they put a lot of time into those talks.

But they are a large company, so it's not the easiest place to change things like, say, compensation for employees. They met the discussions along the way with openness, but they'd say: 'Hey, I don't think we can change any of this, but we'll work on it.'

When it came to the actual conversations about us divesting from Microsoft, certainly there are people in the organisation who were dead set against it because they do see – as you made the point – that they had an internal, world-class developer. For the most part that was people we didn't work with as closely in

Above: Bungie's 115 employees. Two thirds of them have only ever worked on Halo games – Ryan says many are relishing the chance to work on something not involving the game's Master Chief hero

development – they were just looking at it on paper.

The main thing that has made *Halo* work with Bungie and Microsoft, and will make our relationship work, is the relationship itself. Shane Kim and Phil Spencer, who manage and run the division, are great people to work with. There are lots of people inside the organisation, from operations to test, that are so good to work with that they are our reasons to keep working with them.

People that are close, or have been close to the relationship, realise what kind of relationship it is, and they realise it's not really a loss – on paper it may be, but I expect it to be a win-win for both companies.

Some Bungie staff have previously publicly said that you were always focused on the game at hand and not defining the Xbox platform. Did that cause tensions with Microsoft Game Studios?

There was, certainly from their point of view, the view that the sooner we did *Halo 3* the quicker Xbox sales would spike. There were some concerns, but Microsoft were completely behind us in making *Halo 3* the game it needed to be – even all the way up to Bill Gates.

Some Microsoft execs were nervous at first about not having a *Halo* launch title for the 360, but there were things that helped: when the PlayStation slipped its dates, for example, that took some pressure off. But all in all, the studio at Microsoft was fully behind us making the quality game we had planned to make.

***Tomb Raider* is quite comparable with *Halo* in terms of public awareness and cross-market appeal, and developer Core Studio ended up doing sequels until most of the original staff had left. Did you want to avoid that sort of situation?**

Obviously Microsoft wanted us to make more *Halo* games. Both I and some of the more senior guys from the original *Halo* game have deep piles of game designs for the *Halo* universe that we are excited to build at some point. If the stars align and motivations are good and the platforms are right we'll do them.

But, on the other hand, a lot of the staff here are fans of the original game or fans of the studio. We shipped *Halo* with 45 people and now we're 115, so two thirds of the studio have only shipped one or two games in the *Halo* series. For the most part they came here because they were really excited to work at Bungie and in the *Halo* universe.

> *"Senior staff here are actively engaged on a couple of new IPs right now..."*

So from that point of view we don't have a shortage of people happy to make *Halo* games, but obviously there are guys that have shipped *Halo* games for ten years, and they are definitely ready to work on new IPs or create new things. We're actively engaged with the senior staff here on a couple of new IPs right now, but the team that can generate cool *Halo* games is still running full-speed as well.

I'm sure those senior Bungie guys will sit in as advisors – on pre-production, design review and polishing the game as we build it – but they won't have to get their hands as dirty in the bits of pieces of the next couple of *Halo* games.

Marty O'Donnell [Bungie's audio director] once described the Bungie culture as "a slightly irreverent attitude, and not corporate, bureaucratic or business-focused". Can you survive as an independent studio responsible for its finances with such a carefree attitude?

I think the primary culture of the studio will stay that way. Your CFO can't be carefree with financing, for example, so we've chosen people to balance that out but who understand that the primary aim of the company is to make the best innovative, creative entertainment possible. And if that means we're a break-even company

Bungie.net has been the hub for the Halo community since the release of the second game. Although an important site for accessing player stats, profiles, and now user-made game content such as screenshots and videos, perhaps most key is the fact that the URL reinforces the studio brand name

instead of a massively profitable company, then that's where we'll go.

We're going to make the games that both gamers and us ourselves would want to play. If that makes us successful from a financial point of view then awesome, but we're not going to do it the other way – target being profitable and see what kind of game we could make to do that.

I think our biggest risk at this point is that so many people want to join the company. I feel for our recruiting staff, because as soon as the announcement went out, the number of applications went up a hundred fold that day. It's so hard when you find somebody not to take them on, but now we have so many people applying that we could probably hire too many people. So the biggest risk to us is probably growing too fast.

Were you keen to distance yourselves from Microsoft Game Studios?
We want to be seen as different from the other developers that publish with Microsoft. As far as we believe it, we make better games and they are better quality in user experience across the board. So a lot of our process is focused on iterating and doing our best work and ultimately you want to be proud of anything you put the Bungie name on. We want people to know that, as soon as they put the game on and our name rolls up, the game will be awesome.

The Bungie name has always been pretty prominent, though – the whole *Halo* community is focused around Bungie.net, for example. Have you been working on differentiating yourselves all this time?
Yes, differentiating ourselves was always something we wanted to push, and when the potential came up a few years ago for divesting we put more of a focus into pushing brand recognition.

While there are fans that go to Bungie.net, I think that six months ago 50 per cent of fans wouldn't have known who Bungie were – but if you said *Halo*, or Master Chief, they'd know what it was. Of course, you could have a worse life than be associated with *Halo*, because it's been amazing across the board. But we don't want to end up as one of those actors that has the one role everyone remembers, and they can never imagine you doing anything else.

So the real push and challenge for us now – and it was the same as the challenge with making *Halo 2* and *3* in matching the success of the previous game – is to take all the pieces that convey us, such as quality and user experience, and put that in the next games and new IPs we work on.

> ***"Part of what we get out of this is that it doesn't let us get fat and lazy on Halo..."***

But surely being an independent means that it's even riskier to try new IP?
Yeah, you have to be responsible for how you plan and model your funding. If you have one success and two failures, you're dragging pennies out of the bank.

When this discussion started a few years ago, I sat down and came up with a cash flow model for the studio through the next five to ten years. What we are looking at is, well, our costs going up, planning where we invest in tools, and whether we'd look to better leverage outsourcing or downloadable content for a game, or other avenues to at least ensure you remain break-even in the off months between when you ship a hit. That's definitely the first task for the studio: to get to a point where we are getting recurring revenue that keeps us break even.

But that's part of responsible or solid planning. While we're investing in new IP from a business point of view, we'll definitely be focused on keeping the studio afloat, even if we go two to three years without doing something great.

I'd really like to see more independent developers push the limits on what they do. I think we've set up a good model and I hope that 20 years from now people will look at Bungie as an independent developer as a goal for what they want to be.

So this move will see you exploring more avenues than you would have otherwise, because you need to keep afloat?
Absolutely. Part of what we get out of this, and what Microsoft gets out of this, is that it doesn't let us get fat and lazy on *Halo*. Before, we could have just been the internal team in Microsoft that worked on *Halo 3* and then said 'Yeah, we're working on *Halo 4* and it's out in a couple of years'. Just sat back, not worried on the progress made. But now it's our company, it's our dime, so keeping that loop of development on ideas and concepts, keeping the group that does that small, and not taking three months off because we've just shipped a game – that's the creative energy now.

We've gone up a notch. People see the company as theirs to build and theirs to drive. It's that level of excitement – there's a business need for it, but the reality is also now people care about the finances. One of the blessings and curses of being at Microsoft is that we made a lot of money, but we were still just a drop in the ocean for Microsoft Corporation. There was no downside, other than being chastised or getting a bad review. People weren't really afraid of what would happen if they failed inside Microsoft.

So, what's next for Bungie?
It's not like we're worried about a bunch of doors are closing, but we'll have tighter loops with our prototyping. During the development of *Halo* and *Halo 2*, we had other, non-*Halo* IPs in development and we killed those projects both times. Both teams were swallowed whole by the *Halo* team. With *Halo 3*, that was the first time we know that we couldn't let that happen – it's not an acceptable way out to add 20 people to the project by killing that prototype.

We kept that prototype running throughout the development of *Halo 3* and now we have a creative team which feels like they own that.

We also have *Halo* DLC on the way, and a new IP prototype that we are very excited about. Then we have other *Halo* games that are cranking along also. So the end result so far has been exactly as it should have been – we're happy, excited, and doing our best work on a path that lets us grow.

For more on the Bungie divestment and an interview with the studio's audio director Marty O'Donnell, check out www.developmag.com

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DEVELOPMENT'S NEXT TOP MODELS

Business models, that is. Continuing our exclusive extract from the government's Playing for Keeps report, Games Investor Consulting looks at the leading business models and distribution channels in use today…

In this additional section from the Playing for Keeps report, Games Investor Consulting investigates the leading games business models and distribution channels in use today. The following trends and profiles characterise the current commercial pressure in the development market, driving studios' decisions about location, growth, creating IP, starting up and ultimately their viability and sustainability.

The report finds that:

- Consolidation, rising development costs and platform proliferation increase pressure on studios but open up opportunities for specialisation.
- Outdated commercial models and constricted routes to market threaten levels of new independent IP development.
- The decades-old advance recoupment commercial model and retail-based publishing model remain standard for most of the games industry and will do so for many years to come.
- Under the most common commercial models, royalty break-even points for independents are higher than average unit sales and so royalty overages are rare.
- Network technology introducing new business models that give games studios the potential to disintermediate traditional publishers, distributors and retailers and sell direct to consumers is maturing more slowly than many have hoped.
- Games publishers will remain the pivotal link in the games value chain, providing almost all finance for games development and marketing.
- Most independent developers have neither the financial strength nor access to sufficient third party finance to fund more than the earliest stages of a new console IP's development.

More Information

For more information on the final government seminar related to this research, please contact *Martine Parry* on: martine@applygroup.com

Parts of this research were published during the London Games Festival at www.uktradeinvest.gov.uk.

Games Investor Consulting is a specialist games industry consultancy founded in 2003 to provide independent games research and corporate finance consulting to the games industry and financial community. Headed by Rick Gibson and Nick Gibson, GIC is one of the industry's most trusted sources for market intelligence, has generated a number of industry-standard reports and has consulted on games strategy and research for numerous games and media companies as well as trade and governmental bodies.

KEY TRENDS IN COMMERCIAL MODELS AND DISTRIBUTION CHANNELS

Although the games industry is in a constant state of flux, there have been a number of major drivers of change in the last few years, which are starting to restructure the industry:

- **CONSOLIDATION:** an unprecedented number of acquisitions and liquidations of independent developers occurred between 2000 and 2006, but today the remaining studios cannot supply demand from publishers looking to expand their portfolios in anticipation of the apex of the industry cycle
- **RISING DEVELOPMENT COSTS:** Development costs have risen rapidly, driving up the break-even point for developers and lowering the chance of independents achieving overages until these platforms hit the mass market (2008 onwards).
- **PLATFORM PROLIFERATION:** Publishers need to support more, increasingly differentiated platforms. This drives up total costs for developing multi-format triple-A titles.
- **'ONE SIZE FITS ALL' BECOMES HARDER:** Platform differentiation and proliferation and audiences' increasingly personalised content requirements make it harder for a single studio to successfully develop an identical game across multiple platforms, increasing opportunities for independents to specialise.
- **OUTDATED COMMERCIAL MODELS:** the predominant advance-based models date back to when overages were common, but now independents struggle to see post-advance royalties for the majority of their games. Without updating the models, this is expected to continue to restrict new independent IP.
- **FEWER EXPERIENCED CONSOLE DEVELOPERS:** Studio acquisitions and the technological and financial barriers to entry towards working on current generation consoles are reducing the number of independents experienced with, and capable of, working on premium console IP.
- **BARRIERS TO ENTRY FOR NEW IP:** Publisher risk aversion for new IP from independents means that there are structural barriers to entry for new IP, which lacks routes to market. Many new independent IPs have underperformed as publishers focus on licences and internally developed IP. This tendency risks impoverishing the UK market as a whole by restricting the historically rich source of new IP from independents.
- **NEW DISTRIBUTION CHANNELS SLOWLY MATURING:** After years of hype, new routes to market are starting to open up opportunities to independents, with direct-to-consumer digital distribution and downloadable console games disintermediating publishers. However, these channels are crowded, often result in new types of necessary intermediary, and are not expected to win a significant market share for several years.
- **ONLINE GAMES REQUIRES PRODUCTION CHANGES:** As online components of games become more widespread, changes in studio's production pipelines and skills sets (towards service provision, account management and being responsive to consumers) become increasingly important.
- **GAMES SUPPLY CHAIN LENGTHENS:** Complexity of development, outsourcing, and post-launch online content delivery and services are lengthening the industry's supply chain, providing opportunities for service provision specialists.

MAJOR COMMERCIAL MODELS

The following are profiles of the standard games development commercial terms including the benefits, downsides and sustainability for the UK games development sector. The findings and figures were compiled in early 2007

INDEPENDENT IP - ADVANCE MODEL (PART-FUNDED)

Structure: The developer builds a prototype at its own cost (15 to 25 per cent of full game). Once signed, the publisher funds the remaining development + a modest margin, which is recouped against a negotiated share of net receipts (20 to 30 per cent). Once the advance is paid off, the developer receives royalty overages.

Benefits: The potential (if rare) for post-advance royalties; many independents consider this the best way to retain IP rights by sharing investment; risk is lower because the majority of production and marketing is funded.

Downsides: Royalty break-even points (550,000 units for a typical next generation game) have risen over average unit sales (300,000 to 400,000 units) so royalties are rare; publishers may commit less to independent IP; need for pre-investment in engines and technology; potential weak negotiating position; increasing difficulty for independents to self-fund new IP due to poor access to finance limits amount of new independent IP; risk of project cancellation; launch sales often represent the majority of sales due to lack of secondary markets; .

Sustainability: Medium-low. Few developers can self-fund major titles, but publishers still favour this model.

Updating the model: Rarely, some independents negotiate royalties at the publisher break-even point, but increasingly independents negotiate variable rate royalties which accelerate the rate of recoupment by having a higher pre-recoupment percentage and a lower post-recoupment percentage.

THIRD PARTY IP - WORK FOR HIRE (REVENUE SHARE)

Structure: The most frequent model for independents, which features an advance plus a low share of net receipts (10 to 15 per cent) on licensed IP. Developers with strong processes and good reputations tend to win this kind of work, and may command slightly higher shares of post-advance receipts but overages still represent on average only a small (around 10 per cent) portion of an average studio's annual revenues.

Benefits: Lower risk for developer, despite the need for investment in technology; higher quality IP establishes developer's reputation and trains staff; greater upside potential on higher value IP.

Downsides: Unpredictable margins may not cover overheads; IP poverty, continual investment in technology development is required; growth potential is limited; continual sales effort required.

Sustainability: Medium-high. Its continued popularity with publishers ensures that this will remain the dominant model, despite the risk of competition from lower cost territories such as Eastern Europe.

Updating the model: Royalties at the publisher break-even point (rare), variable rate royalties which accelerate the rate of recoupment (more common)

INDEPENDENT IP - ADVANCE MODEL (100% SELF-FUNDED)

Structure: The developer foots the entire development bill (more common on lower cost platforms), which is the least risk for the publisher and the highest risk for the developer. Here developers essentially hire a publisher's distribution and marketing capacity, releasing a higher proportion of net receipts (50 to 60 per cent) to the developer.

Benefits: Higher percentage of net receipts and faster break-evens; IP retention usually achieved.

Downsides: poor access to funding and rising development costs means few independents can afford this; publishers may commit less to independent IP, including lower marketing budgets, so few self-funded titles succeed; less market seeding; lack of secondary markets (see above).

Sustainability: Sustainable in theory but rare in practice.

Updating the model: Private financing, although available, is rare but hard to obtain

THIRD PARTY IP - WORK FOR HIRE (BUY-OUT) MODEL

Structure: Developers work on licensed IP, share no royalties with the developer, but a win a better operating profit margin (15 to 20 per cent). This is found more frequently on lower cost platforms (for example on mobile).

Benefits: Lowest risk for developer, less reliance on unpredictable royalties, consistent deal flow can mean higher company stability, portfolio development on big brands, and lower risk of cancellation on more important IP for the publisher.

Downside: Developers must demonstrate existing technology; stricter production targets; less original IP is developed; lower-cost markets threaten UK studios; a continual sales effort is required

Sustainability: Publishers who use this model show little sign of changing terms, but the result is that UK studios will face competition from cheaper territories.

Updating the model: Some studios negotiate bonuses based on unit sales milestones on top of advances.

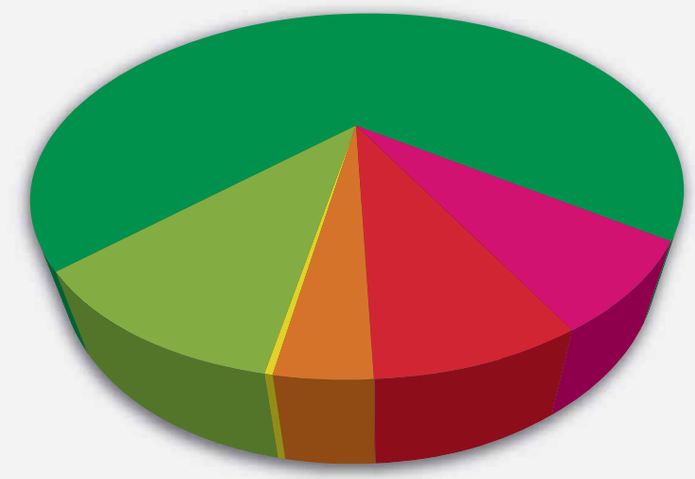
ABOUT THE PLAYING FOR KEEPS REPORT

The Playing for Keeps research was initiated by UK Trade and Investment, the Department of Business, Enterprise & Regulatory Reform and TIGA and completed by Games Investor Consulting in May 2007. The aim was to build on TIGA's initial work and deliver detailed evidence-based research into the current and future states of the UK games industry with a focus on the creation of new games intellectual property (IP), the ability of new companies to start up in the UK and the barriers to inward investment by overseas companies into the UK. The report comprised a broad range of research areas including detailed profiles of the predominant commercial models and distribution channels in use in the industry. UKTI published part of the research, including the complete section of the report on which this article is based, alongside two seminars that took place on October 24th involving senior industry figures, UKTI minister Digby Jones and the Culture Minister Margaret Hodge. An additional seminar discussing commercial models is now planned for the November 22nd.

DISTRIBUTION CHANNELS

Profiling and assessing the predominant distribution channels open to games companies today

MARKET SHARE FOR EACH CHANNEL


Retail – 72%
Mobile – 10%
Online full-game direct download – 0.4%
Casual PC games – 3.2%
Downloadable console casual games – 0.1%
Online item sales and DLC – 7.3%
MMO – online subscriptions – 6.7%

RETAIL

Overview: Retail is (and will remain for the foreseeable future) the dominant sales and distribution channel for games. The mechanisms behind retail – manufacturing, infrastructure, POS, inventory, sale or return agreements – are the foundations of the industry's most common commercial models, whose rigidity is reflected in common commercial models but is also driving innovation in digital distribution.

Benefits: Access to the broadest base of consumers; established mechanisms, relationships and commercials models; dominated by consoles which have single technical specifications.

Downsides: Static business models; commoditised distribution model; inventory management drives price instability; piracy and hacking (normally a maximum of 10 to 20 days after retail release); retailers own customers.

Sustainability: Good. Retail will retain its position at the head of the growing list of distribution channels for at least the next five years, and probably longer. It faces a war of attrition with digital distribution, which will take a steadily growing proportion of the market.

Market share (of 2006 global games software revenues): 72%

MOBILE

Overview: Mobile, despite the hype, has still reached low levels of mobile phone owners, and despite low break-evens and rapid development cycles combined with low production costs, the channel is hamstrung by structural problems which have slowed (and will continue to slow) its growth. The direct to consumer, 'off-portal' channel is still in its infancy.

Benefits: Limited delivery costs; no sudden technology leaps; connected user; vast installed base of handsets

Downsides: High operator margin (30 to 50 per cent in the west); difficult billing mechanisms; low audience penetration; often low quality games; device proliferation; low revenues below top deck placement; operators' consolidation of games partners; poor demographic data; low profitability; low/no revenue share for independents

Sustainability: Low. The structural problems in this sector are such that only a few companies can survive at scale.

Market share (of 2006 global games software revenues): 10%

ONLINE FULL-GAME DIRECT DOWNLOAD

Overview: Digital download of games direct-to-consumer online where consumers pay for games or premium content to download the games onto their PCs or consoles in their entirety, or split into pieces. A wide range of channels exist, but only a few at scale (Steam, EA Link, Direct 2 Drive). Rising broadband penetration will drive this channel, but penetration is still minimal at present.

Benefits: Lower costs; connected users; broadband rates sufficient; better revenue splits

Downsides: Limited opportunity today; publisher apathy; retail opposition; technology costs; security issues; developers bypassing publishers need to fund development and marketing

Sustainability: With low market penetration, the market has been slow to grow, but eventually the market will take hold, increasingly driven by full game downloads on console.

Market share (of 2006 global games software revenues): 0.4%

CASUAL PC GAMES

Overview: The casual PC games market has enjoyed rapid growth in the last five years driven by demand from a broad, mass-market demographic for simple, fun gameplay experiences. Distribution of casual games is via a growing number of channels including community sites, games portals, and direct from developers' sites. These games are monetised variously by subscription, premium downloads, multiplayer wagers and advertising.

Benefits: Cheap, fast development; simple value chain; multiple distribution channels for the same content; huge addressable market and mass-market demographics; growing potential.

Downsides: Low development fees; commercial models favour the aggregator not the originating studio; over-supply of developers and titles; competition from lower cost markets; highly crowded marketplace; plagiarism rife; low barriers to entry; customer management.

Sustainability: Good. A crowded series of distribution channels at varying stages of maturity, but all addressing a demographic that will continue to grow.

Market share (of 2006 global games software revenues): 3.2%

DOWNLOADABLE CONSOLE CASUAL GAME

Overview: All three current generation consoles have online stores selling casual, retro and back catalogue games downloaded directly to the console's hard drive or flash memory cards. Hundreds of such games are in development in this young but growing market. Publishers are jumping on board, driving up production values and leading to an increasingly crowded marketplace.

Benefits: Cheaper, faster development; favourable commercial terms; low/no marketing costs (today); higher conversion to sale ratios.

Downsides: Small market (today); increasing competition; low/no marketing upside; untested viability; rapidly rising budgets; publishers' arrival; limited 360 and Wii downloadable game size (today).

Sustainability: A crowded, immature channel but with good potential from 2008. Early results have been promising. Competition and console penetration will drive the market.

Market share (of 2006 global games software revenues): 0.1%

ONLINE ITEM SELLING AND INCREMENTAL DOWNLOADABLE CONTENT

Overview: A new channel in the west via online consoles (post-launch content for boxed games) but established and dominant in Asia (in MMOs). Most providers rely on players filling wallets (via credit cards or game cards purchased at retail) which allows micro-payments for small goods and services, including added functionality, personalisation, game levels and other content. A number of leading console games have successfully trialled incremental content downloads.

Benefits: Low cost and high return; user price insensitivity; higher revenues per user; captive audience; customer focus delivers useful secondary revenue stream

Downsides: High technology development and maintenance costs; regulatory back-lash (Asia); low studio take up in west (today); skill-set and mind-set barriers

Sustainability: The channel has great potential with fascinating P2P commercial models being trialled in Asia but in the west the surface has barely been scratched,

Market share (of 2006 global games software revenues): 7.3%

MMO – ONLINE SUBSCRIPTION

Overview: While major releases are sold at retail, most MMOGs are available as a free download and monthly subscription enables continuing access to the game world. Subscription revenue is offset by the high costs of creating, marketing, maintaining and updating that game world. Failure rates are high, often due to underestimating ongoing costs. Although console-based MMOs are coming, PC will retain most of the market.

Benefits: Steady, predictable revenue stream with greater longevity than offline title sales; captive audience of subscribers; self-sustaining growth after reaching critical mass

Downsides: High risk, cost and complexity; high post-launch costs; critical mass difficult to achieve; audience churn; project change after live beta; hacking, farming and security; *World of Warcraft*'s domination (in the West only)

Sustainability: The market for subscription MMOGs is being challenged by new MMOG models such as item selling/trading, but successful games like *World of Warcraft* are driving subscription gaming into new demographics, ultimately benefiting the entire market.

Market share (of 2006 global games software revenues): 6.7%

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Pivotal decisions

Managing director Jim Bambra and technical director Alex McLean talk to Michael French about what's changed for Pivotal in its year's as an internal team and as it works on a next-gen title…

How has Pivotal changed over the years as it moved from being independent to in-house following SCi's acquisition of the studio?
Jim Bambra, MD: Structurally things have changed quite a lot, but we still have our own autonomy. There isn't much different between being independent or internal as we still run the studio. There's no sense of corporatism coming in. The real difference we've gone through has been the way development has changed. Our teams are bigger, the overheads are bigger so we need to start looking at doing more projects. In terms of being part of a publisher, we generally get on with our own thing. There are of course things they want to talk to us about and be involved in, especially when it comes to things like marketing. It's probably very different for us compared to some other studios because the company we are owned by is in this country. That has a significant benefit so we resolve things very quickly.

You mentioned marketing there, but outside developers looking in always suggest there will be an element of tension in those relationships between an in-house team and the publishing people…
JB: Well, from them we take a lot of direction about the market that is invaluable. Many developers live in their development world and could do with some outside input, or someone to offer alternatives on how you approach things.

"Publishers are starting to market games with the same kind of money spent on production. They realise you need a united front across publishing and development…"

Alex McLean, technical director: That's something that's changed about the industry. Until a few years ago marketing had little bearing on the quality and success of a game, but now it has as much bearing as anything else. Publishers are starting to market games with the same kind of money spent on production and treat other things seriously. They realise you need to have a united front across development and marketing in order to ensure that success – which has gone on in other industries for such a long time.
JB: I think in the past there was some naievity amongst developers who thought that you could do away with the marketing people and manage it yourself.

What's been the biggest change for the studio in moving to next-gen?
JB: Like everyone else it's scale. Our production team has grown significantly. We have great quality veterans here but the big thing for us now is adding to that team and making sure new people are well integrated into that. That brings with it lots of management requirements – a while ago it didn't take many people to make a game, but now at our peak we're at 55 people on a game. Before we were at 35. A big thing for us has been managing those peaks – we know that games start with just a few people, they get small in the middle, and then they go down again. So one of the jobs we have today are managing those people out because there aren't as many people at the end. With production these days we've learnt that you need the art team to be done early, too.

Have you had to adjust your practices to working more long term given that the previous *Conflict* titles were yearly releases?
JB: Well, back then we were even actually working with two teams on a two-year timeframe for each game – one of the best kept secrets about Pivotal is that we were multi-team. But I'd say the biggest leap for us has been the technology side.

How so?
AM: We've built our in-house technology very much geared towards a multi-processor environment and designed for a multi-threaded framework. The most important thing that we identified straight away was that it won't cut it if we've got the code running on just one of the cores on the Xbox with the other two sat their idle – nor can we do the game if we aren't effectively using the SPUs on the PS3. So what we've done is set up a common framework for both those platforms and multicore PCs, that distributes the various key components across the processors as it becomes available.

Is all your technology proprietary?
AM: It has been historically, although we have no objection to using third-party technology. It's my personal opinion that middleware is just another sign of maturity in the industry. Every other industry over a certain size sub-contracts to a certain extent and buys stuff in – I think the games industry doing so is just a sign of doing that as well. We use a small amount of

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ACCESS DENIED

PIVOTAL'S FIRST NEXT-GEN game is *Conflict Denied Ops*. While it is another instalment in the successful series, it's also a new direction for the franchise, opting for a first-person view, co-op gameplay and a grittier storyline. Ripped from the headlines, managing director Jim Bambra promises a politically sensitive story.

"The locations and basic backstory is that the Venezuelan government has been overthrown and the new ruler is antagonising the US with a nuclear threat. Investigating that takes players around the world," explains Bambra.

"Matters like this are part of our political backdrop and it's more interesting to me to set the game in this real world locations and deal with things that may happen in the real world. Rwanda was a scene of intense violence last decade and we will touch on that."

Design-wise the studio has dispensed with a few staples of the FPS genre in a bid to secure player involvement, adds Bambra.

A non-linear mission structure is designed to let players take their pick on where and what they do, with co-op gameplay a key part of the action. But most important is the decision to effectively give players unlimited ammo.

"We've made the game very accessible for people and have been aware that squad-based games are hard to play – how can you enjoy that without just feeling like the quarter master," says Bambra. "The big thing for us is that we've removed ammunition – the game is a tactical situation that will keep you engaged, not the fact that you've got just three clips and ten minutes spent finding more ammo."

The key result has been removing a crutch that other developers think is a way of creating tension and pace, but which Bambra says is artifical and frustrating.

He explains: "Our approach is different – it's the enemies you come up against and how you approach them that should be more interesting. We really want to avoid the scenario where a player won't want to enter a room because they've got no bullets left."

The game has also helped inform the creation of new technology Puncture, a geometry creation runtime that can create gaps or holes in different materials in the environments in order to let players set up locations for shoot outs.

Explains technical direcotr Alex McLean: "It's not predetermined shapes or gaps, it's exactly where you shoot. And we've got lots of other destruction elements such as grand scale buildings collapsing or small items coming apart."

McLean says they technology team is also building elements that let designers create believable environments: "One part of that is keeping the debris on screen so it doesn't fade away or alpha out."

middleware, such as SpeedTree. But we're also looking at a new product about to go into production in which we will be using a third party solution. We're happy to use both in-house and out-of-house tech – it's not an ideological thing it's about making the right choice and getting the right tool for the job rather than being precious about where it originated.

Next-gen's impacting your studio and technology – has it had much of an impact on how you're finding staff to populate and make those things? Are you facing the recruitment issues others are?
JB: If you're targeting the highly-qualified veterans, then you are going to find it hard. If they're happy and in a good job, they aren't going to want to leave their post and join you. So for us we've been targeting younger staff and trying to get new people into the industry. Previously we've hired people new to the industry who were once the new boys, but are now veterans.
AM: From a programming point of view over the last few years we've done great in hiring new graduates. What we do is focus on the top tier graduates from maths, physics, astrophysics, and computer science courses from the top universities – I don't think games experience is particularly relevant because if they are that bright, and they are decent people it won't be hard for them to get their head around making games.

Does that new blood bring something special to the process that veterans don't give?
AM: Definitely. We learn from them as much as they learn from us. Those veterans here, a lot of them have been in the industry since the 8-bit days when we had to teach ourselves. That contrasts nicely with younger people with a more formal education and a knowledge of the latest developments and changes in language. We tend to partner those new hires with a more experienced guy when they start, but it's a two way thing and everyone learns that way.
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AN ICON AND AN EPIC

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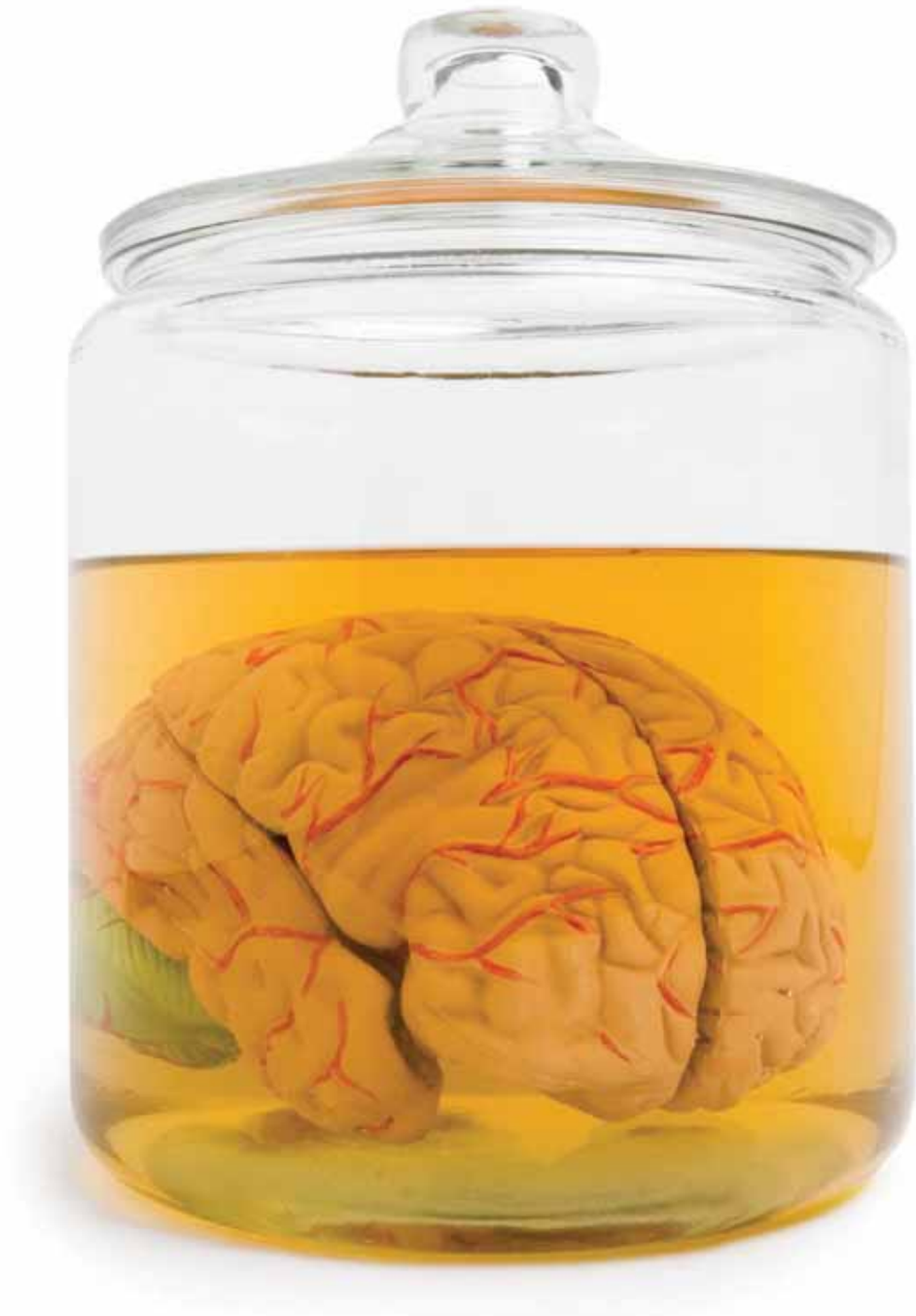


Brain Training

SPECIAL FEATURE:
Artificial Intelligence, p57

The unsteady rise of middleWiiware

TO SOME DEGREE, THE slow drip of announcements from middleware companies adding Wii support to their technologies is only to be expected. Animation company NaturalMotion recently added Wii to its morpheme product, while Emergent's Gamebryo and Vicious Cycle's Vicious Engine also been extended. Everyone, even Nintendo and its manufacturing partners, underestimated the success of the little console that gets you to wave, so the lack of enthusiasm from publishers about a platform from a company that traditionally has taken the lions share of revenue is hardly surprising.

In that context, the priority for middleware providers who already had their work cut out trying to get their smarts working on PlayStation 3 was never going to be hardware which in terms of next-generation status is best described as half-and-half. After all, middleware is about specialists breaking new ground to make hard things easy. When it comes to such technical matters, there's not that much about Wii that's difficult.

Ironically though, for many runtime technologies, adding Wii support could be something of a challenge. Epic's Mark Rein has already said Unreal Engine 3 wouldn't be available for Wii. Equally it's hard to imagine CryEngine 2 crossing the divide, although the OpenGL focus of id Tech 5 may be an more interesting space to watch.

Perhaps it's another case of companies attempting to be wise after the event. Suggestions that the enthusiasm of gaming virgins towards their Wii hasn't been maintained seem to have been strengthened by Japanese reports that two thirds of owners aren't regularly picking up their Wiimotes.

Jon Jordan
jon.jordan@intentmedia.co.uk

< ART >

BRUSHING UP

The latest low-cost 3D sculpting and texturing package comes from the Ukrainian game development scene

CONSIDERING THE SUCCESS OF 3D sculpting products such as Mudbox and ZBrush, you might wonder if there's any opportunities for similar packages. Then again, considering the success of such 3D sculpting products, you know there's definitely a growing market for art packages that enable you to focus on the fine surface detail that's one of the characteristics of next-gen games. Add the sales points such as the fact that 3D-Brush is currently available at an introductory $70 price and is also being developed by the lead programmer behind a multi-million selling game, and the pitch becomes even more interesting.

That said, ex-GSC Gameworld lead coder Dmitriy Yanev's project after the *Cossacks* series is quite a specialist tool.

"3D-Brush is not designed for creating a human body out of a sphere or a cube. The main focus of the program is speeding up the technological process of detailing and texturing objects already roughly shaped in another 3D package," he explains.

"But you can, for example, easily bend an arm or enlarge the model's head. We provide for soft selection and the possibility to change proportions."

He's particularly pleased with the way it brings the usability of 2D art packages into 3D.

"The program contains a number of tools, implemented in 3D, which previously were only available in 2D editors, such as cloning, image transformation on surface and filling with colour or material," he says.

"Drawing with the help of splines and stripes comes in very handy too. You can draw a chain or a stitch with a mere stroke of pen."

3D-Brush v2

Price: $70 (introductory price)
Company: 3D-Brush
Contact: sales@3d-brush.com

3D-Brush also works well with Photoshop, possessing a ZApplink-like connector to aid flow between the two packages. Yanev says he is looking to add support for various industry-standard 3D packages to the standalone as well, with Lightwave's LWO format likely to be the first on the list. And development is proceeding at pace.

"New possibilities are being added so it will be rewarding for people to keep an eye on the application's future," adds Yanev.

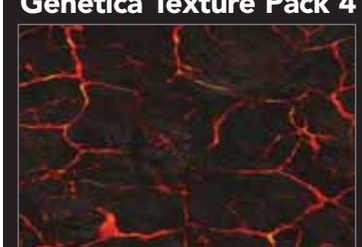
Indeed, Yanev hopes to bootstrap the formation of his new Ukrainian studio on the back of the 3D-Brush business. "At the moment we are fully focused on 3D-Brush development to make it a basis for the further company development," he says.
www.3d-brush.com

Turtle 4.1

Price: Free update, otherwise $1,499
Company: Illuminate Labs
Contact: +46 31 704 94 33
www.illuminatelabs.com

There's plenty of goodies in the latest release of Maya-based renderer Turtle. There's a new interface for setting up Global Illumination renders, including choice of primary and secondary solvers or a fully automatic mode. The GI toolbox also supports High Dynamic Range path tracing making it easier to set up multi bounce renders. A new feature is the radiance cache, which speeds up the calculation of radiosity normal maps, as well as improving their quality. The image-based lighting and HDR user interface is enhanced as well when it comes to the ease of setting up environments and backgrounds.

Genetica Texture Pack 4



Price: Free
Company: Spiral Graphics
Contact: via web
www.piralgraphics.biz

The fourth release in Spiral Graphics' free, seamless and resolution-independent texture pack series adds another 154 textures to the now 600-strong library. The new pack focuses on terrains, with examples ranging from desert, rocky, volcanic, gaseous and lush. The textures are available in resolution-independent procedural form (GTX), as well as pre-rendered JPEGs. These can be used either by being rendered out using the free Genetica Viewer or via seamless texture editor Genetica, which available in standard or pro versions for $129 and $399 respectively. This enables you to fully edit the textures using a node-based approach.

< CODING >

EMBRACE THE BROWSER

Unity 2.0 offers a robust development platform as well as providing plenty of potential for online deployment

THE CONTRACTION AND EXPANSION of the game engine market is so regular, it could make you believe in perpetual motion. Danish vendor OTEE is certainly full of energy. It's just released version 2.0 of its Unity engine: a Mac-based integrated development suite for PC, Mac and browser-based games that it claims contains the most powerful engine "this side of a million dollars".

There are plenty of other elements packed into the platform, including a streaming Web Player plug-in, a real-time drag-and-drop visual editor, a particle system, a brush-based height-map terrain editor and a PostgreSQL-based asset server, which handles version control for code, scripts and assets, although it costs an additional $499.

But it's the DirectX 9 and OpenGL engine that takes most of the focus. Optimised to make the most use of low-end systems and web deployment, it enables you to mix baked vertex lights and lightmaps with dynamic hard and soft real-time shadows. It comes with its own Cg and GLSL-compliant ShaderLab language and 40 pre-built shaders, which have been created to fall back elegantly when running on unsupported hardware. Various water effects presets are enabled and there's a range of post-processing effects. Networking ranges from chat and communication to multiplayer, while physics is provided via Ageia's PhysX and scripting is supported by JavaScript, C#, and Python variant Boo.

unity3d.com

Unity 2.0

Price: from $199 to $1499
Company: OTEE
Contact: +45 6014 3418

PhysX SDK 2.7

Price: Free
Company: Ageia
Contact: +1 650 210 3753
www.ageia.com

Following Intel's purchase of competitor Havok, physics specialist Ageia has announced an expanded licensing and support model for its PhysX SDK. Use of the SDK binaries continues to be offered royalty free, while access to the source code is $50,000 per application. In addition, off- and on-site support options are available, covering features such as game profiling and optimisation, both in terms of Ageia's PhysX add-in card and development on multi-core consoles. Ageia also stated that it has over 10,000 active developers registered, while the most recent SDK release (version 2.7) has been downloaded almost 15,000 times.

SN-DBS 2

Price: Free
Company: SN Systems
Contact: +44 117 929 9733
www.snsys.com

With build processes an emerging focus when it comes to ensuring flexible and efficient game development schedules, SN System has unshackled its Distributed Build System (SN-DBS) from commercial restrains with the announcement that version 2 will be freely available for registered PlayStation users. Supporting PS3, PS2 and PSP, new features for SN-DBS 2 include enabling you to build multiple projects in parallel, improved support for asset builds and better user interface including a project view. SN-DBS works by using spare resources of PCs on a local area network. It can also be used for building assets via the command line.

< AUDIO >

THE RIGHT CONNECTIONS

Steinberg overhauls its audio interface technology to create new plug-in possibilities for developers

WHEN IT COMES TO making the most out of audio technology, industry standard interfaces between host applications and the huge range of available plug-in synthesisers, samplers, effects and MIDI controllers are vital. The most widespread is Steinberg's Virtual Studio Technology, and the SDK for VST version 3 is being readied for a January 2008 release.

The codebase has been completely rewritten, offering what Steinberg refers to as the most stable and reliable VST platform ever. Performance has been streamlined as plug-ins are now only processed when input audio signals are detected, and the audio output bus has been enhanced. This enables you to deactivate unused buses after loading as well as reactivating those when needed, something that cleans up the mixer and helps to reduce overall CPU load.

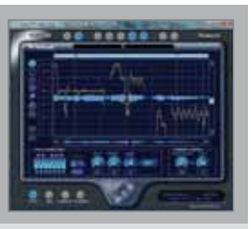
One addition to the specification is side chaining. Derived from analogue audio, this means any audio signal fed to the mixer can be routed to a dedicated bus, enabling compressors, gates as well as dynamic units such as modulation plug-ins to be designated side chain destinations. The configuration of input/outputs is dynamically handled so plug-ins will work in stereo when inserted into a stereo channel, but switch to six channels when inserted into a 5.1 channel, with each audio channel processed independently. VST 3 also features resizing for editor windows, allowing you to include multiple windows on a single screen without them overlapping each other.

www.steinberg.net

Virtual Studio Technology 3

Price: Free
Company: Steinberg
Contact: +49 40 210 35 0

SONAR 7 Producer/Studio



Price: £349/£219
Company: Cakewalk
Contact: +01 617 423 9004
www.cakewalk.com

The latest version of Cakewalk's SONAR digital audio workstation builds on the foundation of the last version's 64-bit XP and Vista support with new features including a Step Sequencer which is integrated with SONAR's Drum Mapping and MIDI routing, enabling you to simultaneously trigger sounds from different instruments from the same step sequencer. MIDI workflow is also streamlined thanks to the Smart MIDI Tools. Three come preconfigured but you can create your own presets as well as specific edit behaviour. Other feature include new instruments such as Dimension LE and Z3TA+ 1.5, plus the addition of the LP-64 EQ and LP-64 Multiband mixing tools.

Foley Studio MAX 2.4

Price: $375
Company: Boomer Labs
Contact: sales@boomerlabs.com
www.boomerlabs.com

A plug-in that integrates sound effects and animation within 3ds Max, the latest version of Foley Studio MAX offers support for 32- and 64-bit versions of 3ds Max 9. It uses the 3D position of the sound source in the scene is to generate realistic audio from the point of view of the rendering camera. Features include doppler shift, to accurately simulate motion, and the directional fade of anisotropic sound sources including occlusion. This can be set up using Acoustic Materials properties. Foley Studio MAX also supports 3ds Max's particle system, enabling you to assign sounds to both particle emitters and individual particles themselves.

SECURITY

Locked and b

Nothing's completely secure, but in a digital, connected world, it's well worth ensuring your content is as protected as possible, says Jon Jordan…

Every silver lining has a cloud, so with the rise of online games and online distribution, come some nasty problems; notably hacking, cheating and piracy.

In the West, we're still isolated from the worst of the situation, though.

Russian antivirus company Kaspersky Lab reckons that over 90 percent of trojans targeting online games are written in China and the vast majority of the passwords they steal belong to South Korean gamers, with *Lineage* being targeted twice as much as *World of Warcraft*.

That's one reason that Korean company AhnLab is in the forefront of anti-hacking solutions that can be integrated into online games.

Equally, having emerged from the first person shooter sector, Texan company Even Balance continues to gain support when it comes to non-persistent games with its Punkbuster technology.

However as developers and publishers tend to standardise around digital distribution channels, whether from hardware manufacturers, specialists such as Macrovision and Softwrap or proprietary systems such as Valve's Steam (which includes its own Valve Anti-Cheat system), the synergies that should be developed by protecting the quality of service, ownership of items and the underlying business of the operators will be increasingly important.

MACROVISION

TECHNOLOGY
ActiveMARK, SafeDisc Advanced, Hawkeye
CLIENTS
Activision, EA, Just Flight, Microsoft, Take Two, Ubisoft
HOST PLATFORMS
Windows
CONTACT
+44 870 871 1111

SafeDisc Advance stop replication of PC games

www.macrovision.com

Macrovision offers three security technologies. SafeDisc Advanced stops the unauthorised replication and code manipulation of PC games, using Asymmetric Code Blending to mesh game and security code. ActiveMARK provides flexible digital rights management for secure online distribution of games, thanks to integration within Macrovision's e-commerce system, and Hawkeye uses proprietary protection techniques and footprint masking solutions to reduce the impact of peer-to-peer networks.

SOFTWRAP

TECHNOLOGY
Softwrap (GO!, ACTIVE! and LIVE!)
CLIENTS
Atari, EA, Eidos, Funcom, Kuju, Sega
HOST PLATFORMS
Windows
CONTACT
+44 207 089 4111

Kuju is using Softwrap for Train Simulator

www.softwrap.com

With a suite of security options from disc-based solutions to flexible digital distribution infrastructure, Softwrap's technology is built around a strong digital right management system. Softwrap GO! is integrated within several e-commerce transaction platforms, while Softwrap ACTIVE! reduces the piracy associated with physical retail content. Softwrap LIVE! provides a complete digital marketing and distribution channel, using an all-in-one software registration, sales and billing system.

IT GLOBALSECURE

TECHNOLOGY
SecurePlay
CLIENTS
Available on request
HOST PLATFORMS
C++, Java/J2ME, Flash, Python
CONTACT
+01 202 332 5106

Secureplay uses a protocol-based approach

www.secureplay.com

Instead of embedding security features in software, SecurePlay's security uses a protocol-based approach that works through a set of transaction-based building blocks.

These blocks handle networked game events and communications with patented protocols that are accessed using a black box API, which sits beneath game code and above the network and deals with both security and networking features even if the software itself is hacked.

olted

EVEN BALANCE

TECHNOLOGY
Punkbuster
CLIENTS
2K, Activision, EA, K2, Sierra, Ubisoft
HOST PLATFORMS
Windows
CONTACT
license@evenbalance.com

Crysis is the most recent Punkbuster game

www.evenbalance.com

One of the original anti-cheat systems, Punkbuster has been used in many first person shooters, starting with *Half-Life*. Since that standalone release however, it's increasingly being integrated directly into games, with Crytek and EA's forthcoming shooter *Crysis* one of the most recent deals. Client features include real-time memory scanning and a secure auto-update system, while on server-side, it is sent regular client status reports to check for cheaters.

AHNLAB

TECHNOLOGY
HackShield
CLIENTS
Hyosung CTX, JC Entertainment, Yedang Online
HOST PLATFORMS
Windows
CONTACT
+82 2 2186 6000

AhnLab

HackShield is a popular Asian anti-hack tool

www.ahnlab.com

Considering the dominance both of online games and hacking in Asia, it's not a surprise that Korean company AhnLab is one of the main anti-hack suppliers. Its HackShield is an intelligent real-time hacking detection and blocking solution. It prevents counterfeiting and modification of program files, screens for memory hacks, prevents runtime modifications and blocks speed-hacks that tamper with system time as well as offering anti-debugging protection.

Development Partners

by David Jefferies
Black Rock Studio

I ONCE WORKED AT a well-known British game company that encouraged each game team to develop their own game engine and actively discouraged them from sharing the technology with the other teams.

It seems ridiculous now, and even back then it was fairly anachronistic, but it worked for them because game engines were small and relied heavily enough on game specific optimisations and design oddities that developing them in isolation could confer an advantage.

They don't do this anymore.

To be competitive in today's marketplace we all have to share code between different game teams at a development studio. And we've all learnt that sharing code is hard.

Most studios have invested in a Core Technology Group (CTG) to coordinate the sharing effort. In our studio it's not just CTG that develops the shared libraries – the game teams also contribute heavily – but sharing their work is difficult because game teams are usually pressured for time.

We found we had two problems. Firstly, shared technology that was developed on-team was often unsuitable for sharing because it wasn't sufficiently modular and was too closely tied to a particular game. Secondly, features that were developed centrally in CTG would go unused for a variety of reasons: sometimes the task didn't fully meet the team's requirements, sometimes it was too difficult to integrate into the game and sometimes the team that requested it didn't really need it.

> ***"When developers from different teams meet regularly to talk about their work it promotes trust, a prerequisite for effective technology sharing…"***

Development partners were designed to be part of the solution to these problems. They are development staff from each game team and from CTG. They are usually programmers, but if a feature is art related then it makes sense to nominate an artist. Also, they are not always the same person – development partners are picked to reflect their area of expertise.

Their role is to ensure that any piece of technology being developed at the studio that is a candidate for sharing is developed in a way that is suitable for sharing. They review the pre-production (see last month's column) of the task to ensure it meets their requirements. They meet regularly with the implementers to ensure it's on track. If the requirements of the teams change then the development partners ensure that this is reflected in the on-going task, and if the requirements of the teams change completely the feature gets cancelled.

One other benefit of this system is that developers from different teams have to meet regularly and talk about their work. This promotes trust, which is a prerequisite for effective technology sharing.

But regardless of whether you achieve trust or not, you'll never get them to agree where to put the curly braces.

www.blackrockstudio.com

KEYRELEASE

PRODUCT: Emergent Platform
COMPANY: Emergent
PRICE: Available on request
CONTACT: +01 818 222 5355
W: www.emergent.net

The Emergence of Emergent

Piece by piece, Emergent Game Technologies is building the next generation of middleware, Jon Jordan discovers…

Geoffrey Selzer is a man who's happy to take the long view. He does have a degree in philosophy, after all, and having run game production at Disney Interactive during the mid-1990s and then spent time consulting for game and media companies, he's seen how the industry's changed too. Still, it's been over two and a half years since he took over the shell of one of those ambitious online infrastructure companies that spent its way through vast amounts of VC money without actually bringing any technology to market.

Named CEO in early 2005, he quickly changed the name to Emergent Game Technologies to reflect "the direction of our strategy to take the company into a broader, more expansive market," as explained at the time.

So unsurprisingly perhaps, he's keen to move the conversation onto 2007, as having raising its own investment and merging with Gamebryo provider NDL, Emergent has shipped plenty of technology and is starting to reap the commercial benefits of that refocused vision.

"To be absolutely clear, there's not one line of code left from those days," he points out, rather strictly. "Emergent was a complete restart."

But not to labour the point, it's this history that finds Emergent in the situation where it offering one of the widest ranges of middleware and services. As one example, its once PC-only Gamebryo engine has become cross-platform and sales have gone from strength to strength.

"It's modular, has a good interface, is well documented with 350 pages of hyper-linked documentation and we offer great support," Selzer says.

"We're the only people who support our software like that. Gamebryo is the only enterprise-quality engine out there."

BROAD STROKES

Meanwhile, over time, the various pieces of the Emergent Platform have been brought into play. The Metrics and Automation elements are available, while most recently, announcements were made with HP and 3Tera concerning online hosting and Aria for billing.

"In some ways it's not as technically challenging to deploy an online game as some of the other issues impacting game development but it's outside most companies' core competency right now, and it costs a lot of money to handle correctly," says Selzer. "What we're doing is integrating what we believe will become the industry standard for online. We don't need to build every piece of technology but what we do need to do is offer people everything they need to be able to deploy and manage an online game."

Some of Emergent's own components, notably the vital Server Engine, remain to be released (it's soon to go out to early adopters), but the idea of a very broad suite of technologies that cover almost all aspects of game development, and thereby invoke significant production synergies, is definitely taking shape.

"We've taken a radically different approach to say Epic. We have a lot of respect for them. Unreal is a beautiful vertical engine, but we take a horizontal approach; flexible, modular, cross-platform, enterprise-quality," he says.

And what's significant about this vision is the way it covers current methodologies of production, as well as trends such as the industry-wide migration to features such as persistence, metaverse worlds and episodic gaming. In this way Selzer argues Emergent gains the best of both worlds, as well as creating a new type of middleware in the process.

"When we look at online engines such as BigWorld, Hero, Icarus, Multiverse, that's not what we want to do," he says. "We don't want to compete head-on with BigWorld anymore than we want to compete head-on with Unreal. We're integrating Gamebryo and the Server Engine across a framework that will allow people to plug and play different pieces of middleware. Our whole idea is not about being a vertical engine like Unreal or CryEngine but creating a series of tools, technology and middleware that really attack the industry's problems. We just don't think vertical engines are scalable."

Top: Geoffrey Selzer, CEO, Emergent

Middle: The Metrics component is a powerful tool

All for one, one for all

One of interesting results of Emergent's approach to middleware is its pay-as-you-go service business model, which provides customers with more flexible options than the chunk-now, royalty-later model that's become standard.

It clearly makes sense when it comes to deploying and managing online games, due to the vagaries of accurately predicting subscriber numbers when launching a game.

"If you build too small you have the problem of scaling up, which you need to do quickly, but if you build too large, you're never going to ammortise those initial costs," says Selzer."Basically, if you don't handle the sever side of your deployment absolutely beautifully, your game will never see the light of day."

The issue for Emergent however is the model also implies that it will be able to handle a large volume of successful customers, who in turn are supporting a vast numbers of subscribers.

"The reason this works is we can absorb the variability of any single game over the deployment of a whole number of games," Selzer explains. "In this way, the benefits in terms of risk reduction are passed onto everyone. That's what makes an industry-standard solution like this very powerful for all concerned."

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We're looking for an exceptional candidate from industry or academia, with experience of the games development process. You'll be well versed in environmental or character modelling & texturing techniques, ideally using 3dsMax, although experience with other modelling software will be considered.

In return, we offer a friendly working environment with 35 days' holiday and time to work on your own research projects. Welcome to our kingdom, your journey starts here.

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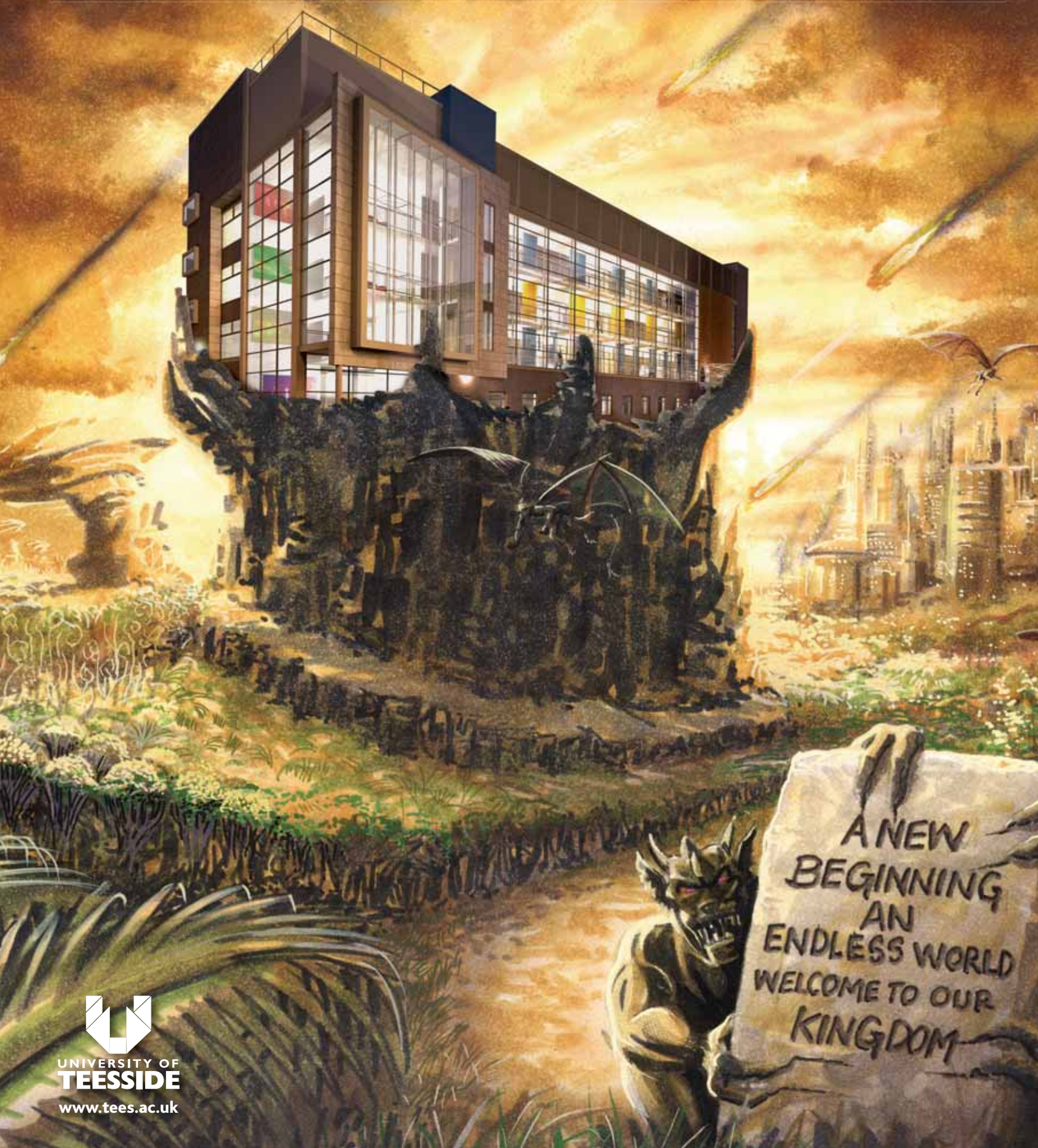
Job Reference: 5154
For further details of this and other posts, please refer to our web site at www.tees.ac.uk
Closing date: 11 December 2007, 12noon



UNIVERSITY OF TEESSIDE
www.tees.ac.uk

Free with this issue is Beta 2 of the latest version of Microsoft's ubiquitous Visual Studio. Develop talks you through the key features of the 2008 edition…

Let's be honest: Integrated Development Environments are hardly the most glamorous of software packages. In fact, many would say they're not even that necessary – maybe people stuck in the middle ages with nothing but a vim terminal window and a gcc toolchain. And while that's certainly a viable method of development, and one that even has a place in modern times, it's not surprising that most would want a slightly more user-friendly, more productive programming environment.

It was ten years ago that Microsoft first unified its development environments together to make Visual Studio, although that original version still featured separate applications for each language, from C++ to J++ (and presumably not the other letters in between). Visual Studio 2008 is the latest version of Microsoft's one-stop development solution, but what relevance does it have to game developers?

Sure, there are a bucket-load of features aimed at the enterprise developer – better integration with databases, integrated support for SQL Server 2005 Compact Edition for mobile and handheld platforms, the ability to create Microsoft Office applications and customise the Office interface, and more productive data handling with the Language Integrated Query (LINQ) extensions to C# and Visual Basic – but most of these can seem irrelevant to problems and situations encountered in game development.

Significant improvements have been made to the environment, however, that can aid in the game development process. The source control, rename re-factoring and a deployment solution that includes visual diff/merge are sure to be of use, as is support for test-driven development. An increasingly popular tenet of Extreme Programming, Visual Studio 2008's unit testing capabilities have been enhanced with speed increases for tests run from both the IDE and command-line, and the addition of test inheritance now also enabling developers to re-use inherited methods.

Also of interest to game developers is the integration of performance tuning and diagnostics into the IDE's test tools. Developers can now profile during tests, allowing them to run load and test procedures against a system, watch how it behaves, and use the integrated tools to profile, debug and tune. Support for performance base-lining is also included, meaning that a baseline profile can be saved and then, if the performance degrades, users can compare up-to-date traces to identify the source of the regression.

Tools programmers will also benefit from full support for developing Windows Vista 'look and feel' applications, even from unmanaged C++ code, with many MFC applications benefiting from visual enhancements with just a simple recompile. Designing user interfaces has also been hugely improved with compatibility with Microsoft's new art program Expression enabling artists to have full control of UI design, especially useful for tools that non-technical staff will use.

"VS 2008 integrates performance tuning and diagnostics into the IDE's test tools…"

All in all, Visual Studio 2008 is an update significant enough to deserve a place on most programmers' workstations – and you don't even have to take our word for it, with the full Beta 2 included with this issue for you to try.

www.microsoft.com/VisualStudio

FEATURES AT-A-GLANCE

- Integrated support for unit testing
- Integrated performance profiling and analysis
- Windows Vista UI support
- Support for Expression-designed UIs
- Enhanced database support
- Visual Studio Tools for Office built-in
- Office 2007 UI support for native C++ apps
- Better interoperability between native and managed code

Scotland – Concept Artist

The creators of a number 1 smash hit 360 game are currently looking for a concept artist to work with a talented team on a high profile, next-gen MMO. If you want some solid experience with a highly regarded developer, this is the position for you. Experience preferred but not essential.

Midlands – Tools Programmer

This developer is responsible for a hugely popular console FPS series and is looking for a Tools programmer to help with their latest next-gen project. With a minimum of two years experience, the successful candidates will provide plug-ins, scripts and bespoke tools to support the creation of art and animation assets. Experience with a game tool chain would be a bonus.

North East – Lead Programmer

This highly regarded studio created one of the most successful boxing sims of modern times and is on the lookout for an experienced programmer to lead a talented team through the final phase of an exciting title for next generation consoles. The ideal candidate will have at least 5 years industry experience with good communication and teamwork skills.

Midlands – Level Designer

If you have game design experience and are looking to take the next step with your career this could be the company for you. Having worked on one of the best loved sports series ever, you'll be working alongside a talented design team on their latest next-gen project.

Our referral scheme – the higher the salary, the more you get! The finder fee depends on the salary accepted, and our rates are:

Less than £20k - £250
£20-29,999 - £500
£30-39,999 - £750
£40k+ - A WHOOPING £1000!

CALL FOR FURTHER DETAILS

Midlands – Senior Programmer

This AAA studio are looking for a Senior Programmer to work with the team behind one of the most prestigious racing series ever made. They're looking for a candidate to use their experience to design, implement and code modules to a required standard - with the opportunity for project bonuses and flexible hours.

South West – Senior Environment Artist

Want to work with the team behind one of the most successful military games series ever? As part of the Environment Art team, you will be involved in all aspects of creating visually stunning gaming environments for this companies cutting edge next-generation titles. Your greater experience will mean your involvement in helping organise, mentor and lead small teams of less experienced artists.

South East – Assistant Producer

If you want to make your CV really stand out, then this AAA studio is just for you. Having produced one of the most intricate and established RTS series ever, they are looking for someone willing to get truly stuck in to their next project. Whether you have assistant producer experience or are in a Lead QA role, apply now before it's too late!

South East – Senior Producer

If you think you have what it takes to run a large team for a very well known and hugely successful franchise with large publisher backing, then this is the position for you. They're looking for a Senior Producer with excellent group leadership skills and proven production experience. For a chance to work for one of the UK's leading developers, apply now.

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EPIC'S UE3-BASED PC GAMES ALMOST GOLDEN

Your monthly update on what's new in the world of Unreal Engine…

The Windows versions of *Gears of War* and *Unreal Tournament 3* will soon be on their way to stores world-wide.

Both releases are important milestones for UE3. *Gears of War* supports Microsoft's Games for Windows Live platform, and *Unreal Tournament 3* uses GameSpy's multi-player platform. Our licensees have a fast path for integrating either solution. Plus, our multi-platform approach required a network abstraction layer which makes it easier than ever for licensees to use other networking libraries, or to create their own in-house solution.

We've just released the *UT3* beta demo, generating feedback from thousands of end-users ahead of our retail release. In addition to gameplay feedback, the demo helped us gauge our efforts to create a highly scalable graphics engine. We've spent considerable time and effort optimizing the engine for older PC configurations. Feedback from the demo shows this was time well spent, because a surprisingly wide range of PCs can run this cutting-edge game. In fact, *UT3* runs smoothly on hardware that was generally available when the last *Unreal Tournament* game was released, back in September 2003. UT3 is also in development for PS3, Xbox 360, Mac and Linux. Gears of War is also in development for Mac.

Unreal Tournament 3 demonstrates the great scalability of Unreal Engine 3

AMERICAN MCGEE'S SPICY HORSE GAMES LICENCES UE3

Spicy Horse Games, a Shanghai based game developer, has entered into a multi-title agreement to license Unreal Engine 3 from Epic Games China. Spicy Horse Games is using UE3 for *American McGee's Grimm* along with upcoming PC and console game titles. *Grimm* is a part of the GameTap Original lineup, expected to launch starting in 2008.

"Unreal Engine 3 has given our team the tools they need to express their creativity in a rapid and predictable way," said American McGee, creative director of Spicy Horse. "Working with the great people at Epic Games China allows us capture rapidly expanding business and creative opportunities in Chinese and global gaming."

Paul Meegan, CEO of Epic Games China added: "We're very happy to be working with American McGee and his team at Spicy Horse. American has a reputation for being highly creative, and his is one of the first independent teams to make games for the global market place entirely in China."

UMBRA JOINS THE UNREAL ENGINE 3 INTEGRATED PARTNERS PROGRAM

Umbra Software, the visibility optimization experts, today announced they have joined Epic Games' prestigious Integrated Partners Program for Unreal Engine 3. The industry-standard Umbra visibility optimization middleware has been fully integrated into Unreal Engine 3 and is now available for licensing directly from Umbra Software.

UE3 includes occlusion culling, using a mix of automated and manual processes which has been used successfully in many games. With the integration of Umbra Software's hierarchical occlusion culling technology, developers will have a fully automated system that is scalable to very large worlds. This can result in time savings in content creation, and allow for much more complex content. Umbra middleware also optimizes player-created content, effectively allowing the players to modify worlds on the fly. Massively multiplayer online (MMO) games in particular benefit from the increased freedom of movement brought on by visibility optimization.

"Several Unreal Engine 3 licensees already use Umbra's middleware and have been delighted with the results," said Michael Capps, president of Epic Games. "They're a perfect fit for our partners program, and now it's easier than ever for Unreal licensees to integrate Umbra software's technology."

UPCOMING EPIC ATTENDED EVENTS:

LYON GDC GAME CONNECTION
Le Palais des Congrès de Lyon
December 4th to 6th, 2007

GDC 2008
San Francisco, CA
February 18th to 22nd, 2008

Please email: mrein@epicgames.com for appointments.

To discuss anything raised in this column or general licensing opportunities for Epic Games' *Unreal* engine, contact: **mrein@epicgames.com**

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Canadian-born Mark Rein is Vice President and Co-Founder of Epic Games based in Cary, North Carolina. Epic's Unreal Engine 3 has won Game Developer Magazine's Frontline Award for Best Game Engine for the past three years and Epic was recently awarded Best Studio at the Spike TV Video Game Awards. Epic's Gears of War, won Gamespot's overall Game of the Year and sold over 4,000,000 units on Xbox 360. Epic is currently working on the Unreal Tournament 3 for publisher Midway and a PC version of Gears of War for publisher Microsoft Game Studios.

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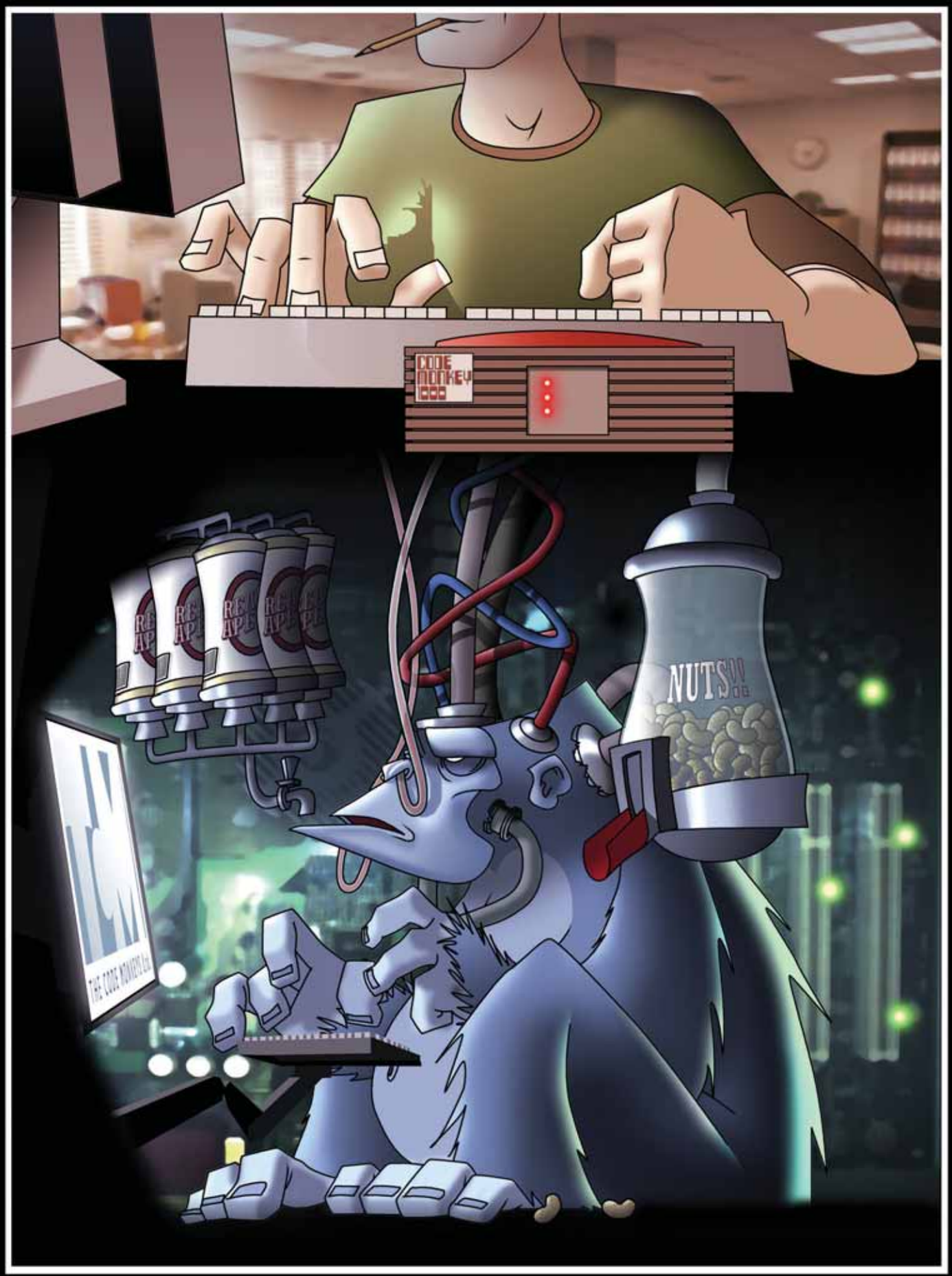

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HEARDABOUT

The Club

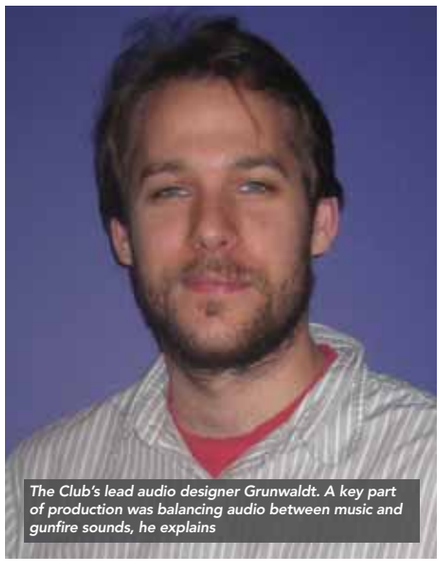
John Broomhall talks to Bizarre Creations' lead audio designer Mathias Grunwaldt about the sound production on a new IP for Sega…

FORMATS: 360, PS3 & PC
DEVELOPER: Bizarre Creations
PUBLISHER: SEGA

AUDIO TEAM: Mathias Grunwaldt *(lead audio designer)*, Nick Wiswell *(sound designer and audio manager)*, Emma Jackson *(sound designer)*, Nick Raynor *(sound designer)*, Nick Bygrave *(audio programmer)*, Jon Cutter *(audio programmer)*, Sam Hall *(audio programmer)*, Cian O'Flanagan *(audio programmer)*

COMPOSERS: Jesper Kyd *(title music)*, Richard Jacques *(single-player music)*, Chris Chudley *(multi-player music)*

THE NUMBERS:
Original score features 18 tracks, game has around 7,500 sound effects and dialogue consists of approximately 4,000 lines



The Club's lead audio designer Grunwaldt. A key part of production was balancing audio between music and gunfire sounds, he explains

Bizarre Creations' new third-person shooter *The Club* sports an arcade aesthetic and features a fast-paced, balls-out, all guns blazing game experience. Bursting into rooms chock full of enemies, the player has to chain together as many 'kills' as possible, against the clock.

For lead audio designer Mathias Grunwaldt the game's development presented a valuable opportunity.

He says: "Being audio lead for the first time changes things. Suddenly, it's your job to anticipate possible problems, manage outsourcing and check on timely delivery of audio assets. As well as your own sound design, you have to critique other peoples' work. Thankfully, we have a great team and I was very well supported."

One key responsibility was assisting development of a new system to provide maximum detail for surface-related sound events.

Explains Grunwaldt: "Every footstep and body fall sound very accurately reflects the surface it contacts. Different shell cartridges falling from each gun respond to the right surfaces – a metal 'dink' for gravel or a resonant 'pock' for a wooden floor. The more detailed you get, the more the entire sound design responds to the world around you, significantly enhancing overall audio credibility. Each surface type must be carefully defined and flagged in the geometry so the sound engine knows exactly which sounds to choose. Even with test-passes and de-bug tools to raytrace all surfaces and objects, it's still easy to leave 'holes' if you're not careful. It's expensive on samples and buffers – and therefore memory – but the result is well worth it."

> ***"Stand still in-game and just observe. It sounds how it should…"***
> ***Mathias Grunwaldt***

When it came to sound sourcing, foley recording sessions were conducted at Universal Sound, recording each relevant material at various sizes and impact velocities.

Adds Grunwaldt: "For instance, we broke up wood into smaller and smaller pieces, throwing them around on the foley stage to mimick what happens in the game's physics as to mass and velocity. This was a fantastic learning experience automatically prompting close attention to what the sound of a given component falling or breaking really sounds like. The result was a highly re-usable, superbly recorded bespoke sound library, all at 24 bit 48 kHz with beautifully quiet tails."

Ambience recordings took place at such diverse locations as a nuclear bunker in Kelvedon Hatch and downtown Venice, whilst pre-existing weapons source recordings were provided by well-known Charles Maynes.

"I'm very pleased with the way the guns sound, particularly at distance," says Grunwaldt. "By separating the peak from the tail we could balance them to get an upfront punch whilst the reverb tail is kept louder to convey audio depth of field with careful use of EQ roll-off completing the picture."

Music-wise, Jesper Kyd provided a dark, gritty signature track setting the scene of the seedy underground world of the killing club whilst Richard Jacques took responsibility for scoring the single-player game, weaving appropriate atmospheric sound design elements into his music. Specific multi-player music to reflect more tactical and stealth gameplay elements was handled by Chris Chudley.

However, as Grunwaldt points out, care was required to prevent the sound FX detail being swamped by pumping music: "When we first put the music in, the rest was gone. We didn't want to just squash the sound FX with limiting/compression and waste all the effort to get those gun peaks sounding so good. The answer was parallel compression – splitting the mix into two paths, one of which is heavily compressed whilst the other is left with dynamics intact. They are intelligently manipulated at run-time so the compressed version can be used to convey the lower volume detail, but the louder weapons audio can still retain its original sound."

Grunwaldt feels the overall audio is extremely believable. "Stand still in-game and just observe – and it sounds how it should – the reverberance and filtering mean a guy shouting in a room around the corner really sounds like he's there, and if you shoot up shutters in Venice and debris falls down the roof and onto the balcony below cascading over wood and metal, it works and sounds very satisfying."

John Broomhall is an independent audio director, consultant and content provider
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Creative Producer
£Excellent + Bonuses + Benefits

Germany CW02222CP

Our client is an upcoming publisher for electronic games which focus on titles that are suitable for children and their families. The successful candidate will work closely with the Creative Director and management to deliver products in time, in budget and in quality. Experience of game development from many different perspectives, including game play, programming, content, workflows and production, is a key requirement.

Project Manager
£DOE + Benefits

North West CW1976PM

Our client is a newly formed internal development studio for one of the world's leading publishers. They have put together a very talented group of developers and expansion plans for 2007 are extensive. The key responsibility for the successful candidate will be to schedule and track the development team, and subsequently suggest, build and maintain project management systems to ensure the project runs smoothly.

External Producer
£DOE + Bonuses + Benefits

London CW93EP

My client is a leading international publisher who are responsible for developing, publishing and distributing interactive entertainment software products for a variety of hardware platforms including PC and wireless devices. They currently have a requirement for an experienced producer who will be responsible for account managing projects for one of their various external development studios. The ideal candidate will must have experience at producer level of managing at least one full production cycle.

Programmers Jobs

Graphics Programmer
£DOE + Benefits

Gateshead PA400F3

My Client is a well-established games development studio who is now owned by a major international publisher. Last year saw the release of a very high profile Xbox 360 title and they continue to work on exciting projects. They are currently recruiting for an experienced graphics programmer. You will have at least 2 years industry experience with at least one published title to your name. Strong maths is essential along with knowledge of HLSL.

Lead Programmer
£DOE + Benefits

Surrey PA406F2

My Client is one of the foremost developers in the UK with a number of Studios around the UK and a long list of successful titles to their name. They have an excellent relationship with Nintendo and have just signed an original title to develop for the Wii console. They are looking for a programmer to lead this team. The ideal candidate will be someone with Wii experience looking to step up to a Lead position. A passion for innovative gameplay is essential, along with an excellent technical knowledge.

Senior Programmer
£Excellent + Benefits

Oxfordshire PA1362F4

My Client is one of the UK's premier developers. Although they have been established for only 5 years, they have appeared in the Develop 100 consistently since 2005. Their reputation has been built on a number of highly successful sports titles and they are now expanding into other genres. They require a senior programmer with at least 4 years industry experience and a good all round knowledge of a number of areas of game development. C++ is a must, as is good communication and organisational abilities.

Network Programmer
£Excellent + Benefits

Manchester CM1976F5

My Client is a newly acquired internal development Studio for one of the World's leading publishers. The studio has previously developed one of the highest scoring games and their plans for 2008 are extensive. They require an experienced Network Coder with a knowledge of C++, C#, .NET and SQL. You will also need an understanding of Load balancing and BSD sockets. The role will involve creating dedicated gaming servers and you must have excellent team working skills and problem solving abilities.

Quality Assurance Jobs

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East Midlands LD1972T

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Localisation QA Technician (German, Spanish & French)
£15,495

London LM33T

Our Client is one of the UK's leading publishers of computer games and one of the world's leading developers and publishers of entertainment software. You will be required to work within a team under the direction of a Lead QA Localisation Technician, to find, report and regress defects found within the assigned title.

QA Manager
Negotiable

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to £25K DOE

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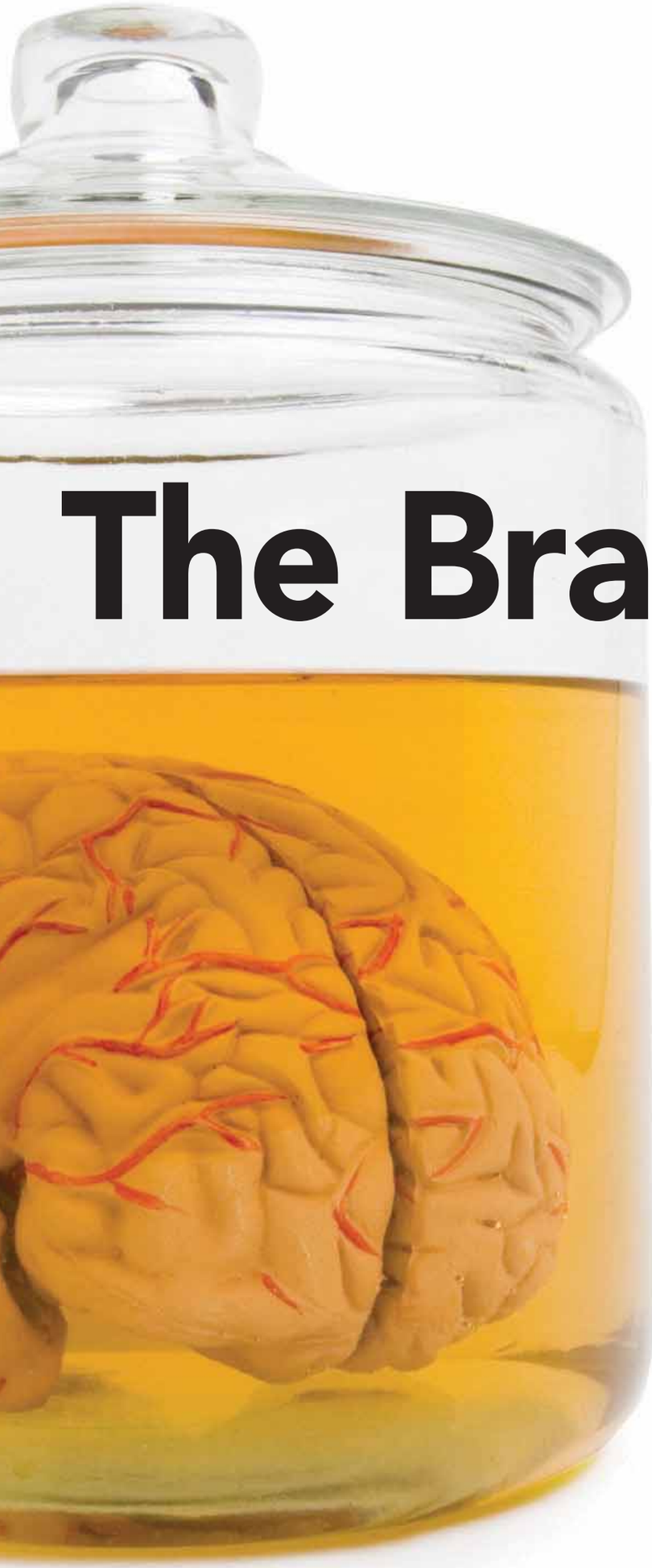

Not so long ago, AI was the ingredient many thought would bring about a revolution in gaming. And then physics came along and stole its thunder, leaving it to flounder on architectures too simple to ever let it flourish. Ed Fear looks at the field and sees what today's consoles can do to train our games' brains…

The Brain Drain

There's a bit of a problem with AI. But it's not some insurmountable scientific barrier, and neither is it a technological constraint. Rather, the problem is that it largely exists in the eye of the beholder.

While a complex physics engine produces easily observable, predictable results – shove a pile of boxes and they will topple, push a barrel down a hill and it will roll – AI is much more of a mythical force, one that has less immediately visible effects. That's not to say that the line between convincing, intelligent behaviour and blindly running into a wall isn't distinct – clearly, it is – but that it's an extremely thin line, breaking a binary boundary between 'great' and 'awful'.

"For a game developer, the key issue is making techniques apply absolutely robustly in all kinds of situations."

In essence, there's no point in using new fancy AI techniques if they don't fit or can't be relied on to always provide acceptable results.

NEURAL MELTDOWN

For example, much talk was previously focused on neural networks, an area of AI that aims to approximate the brain's structure to provide a similar learning/judgement model.

Despite featuring a topology suitable for learning – an often-requested feature in games – their usage never took off as some expected. Training the network to give acceptable outputs takes time and can require significant horsepower, and the 'network' structure means that they act like a black box; the rhyme and reason behind outputs lost amongst a tangled nest of arcs.

> ***"Few AI concepts are used in gaming because AI is a very broad domain, from cognitive science to data mining…"***
>
> ***Pierre Pontevia, Kynogon***

So, how do you make sure you stay on the right side of the divide? The key to making characters behave in a realistic manner, says PathEngine's Thomas Young, isn't in using brand new AI techniques, but in applying currently existing techniques in a uniform way.

"As a game player I see many aspects of game AI that could be improved to make a big difference to my game-play experience, but essentially are all about making known techniques work correctly in a context; about implementation nuts and bolts.

But neural networks are just one example of several 'vogue' techniques that have been developed in the AI research field and jumped on expectantly by developers, only to discover non-suitability. "Few AI concepts are used in gaming because AI is a very broad domain, from cognitive

Multi-core architectures are allowing large amounts of characters to be simulated at the same time

science to natural language or advanced data mining," explains Pierre Pontevia, CEO of Kynogon. "Most of these domains aren't relevant for game programming."

The fact is that, unlike many other areas of game development, AI isn't driven by research into new techniques because the aims of the researchers are so different to those of the real-world implementers. "The world of academic research tends to be about demonstrating something new and interesting, at a high level, with the actual engineering details not so important – but in the world of game development things are the other way around," admits Pontevia.

FINDING YOUR PATH

It's fitting, then, that AI middleware doesn't approach the problem in quite the same way that other middleware does. While Havok might be a complete solution to providing accurate physics in a game, there's little such 'full solution' AI middleware available on the market. Think about it: would you want your AI to act exactly like it does in your competitors' games because you'd used the same behaviours?

As such, a large amount of the AI middleware available automates low-level, but absolutely crucial, elements like pathfinding – something that doesn't sound nearly a sexy as neural networks or genetic algorithms, but is far, far more essential, and can make or break your game.

Kynogon, which counts dynamic pathfinding as one of the key features of its Kynapse technology, distinguishes the sorts of tasks that middleware can provide from the ones that have to be developer controlled. "We split game AI into two fields – 'Decision AI' and 'Action AI'. Decision AI is the decision making: why a character does something and makes certain decisions, whereas Action AI is about how the character will do what it has decided.

"Decision AI is very gameplay specific and constrained by scenario, so if there are evolutions in this domain they will come from the game designers. But we focus on Action AI with key components such as 3D pathfinding and special reasoning."

Time was, pathfinding meant an implementation of A* or one of its variants, often accompanied with pre-calculated navigation meshes based on level topography, but these days things have changed significantly. Thanks to the advent of advanced physics simulations in games, levels now tend to be littered with more objects that can – and frequently do – move and scatter. As such, relying on pre-calculated walk meshes alone is a less feasible prospect, as objects need to be dynamically circumnavigated or avoided, whole routes recalculated on the fly.

Doing this in real-time on previous-gen consoles would have been impossible, but the parallel nature of modern console architectures means that these calculations can be offloaded to another core or SPU.

"Multi-core technologies enable the game developers to spend much more resources than were possible before," elaborates Dr. Andreas Gerber, CEO of AI behaviour technology company Xaitment. "Implementing believable AI on the last generation consoles was just not possible."

These parallel architectures are also enabling larger amounts of intelligent agents on screen at once, realistically populating the large worlds that players have come to expect in contemporary games. "We're seeing more scenes with crowds of characters that can display complex behaviours, like panicking or rioting," explains Robert Kopersiewich, VP of product management at Presagis, the developers of AI.implant.

> ***"Implementing believable AI on the last generation consoles was just not possible…"***
>
> ***Andreas Gerber, Xaitment***

BRAINS OF THE FUTURE

So if the future of game AI isn't in new revolutionary concepts or models, where does it lie? Most agree that it likely lies in improvements in current techniques, but there are areas into which research is being applied.

One such area is that of spatial reasoning, says Pontevia: "Pathfinding tells you how to go from point A to point B, but spatial reasoning tells you why B is an interesting destination.

"You need to be able to dynamically analyse the 3D topology to identify interesting locations, such as hiding places, access ways and threatening zones. Being smart starts with understanding properly your environment."

And the future? TechExcel's CEO Tieren Zhou imagines a future where games are all like virtual worlds: "Characters could adapt themselves to change, not based on pre-defined characteristics. That would make games more adaptive, more exciting. To build characters with infinite change, and with self-adapting and self-forming capabilities, AI will play a significant role."

Such a vision may seem far off, or even a nightmare to some designers, but in reality the latest hardware makes this sort of autonomy a more viable prospect. "The time is right for significant advancements in AI," says Kopersiewich.

But nothing will happen until developers see the need for it. Despite being a hot topic in previous years, AI would appear to some to have fallen as the gaming zeitgeist. But, says Gerber, that doesn't mean it's any less important.

"Physics was the hype of yesterday, but now every game does it. Every game has a complex graphics engine. The only thing games can differ is AI, but only when game studios and publishers spend more resources on AI. If only one to three per cent of the budget is spent on AI, it's clear that the results won't be adequate."

Typical mayhem in Crackdown (above). Oblivion (right) simulated NPCs with their own daily routines

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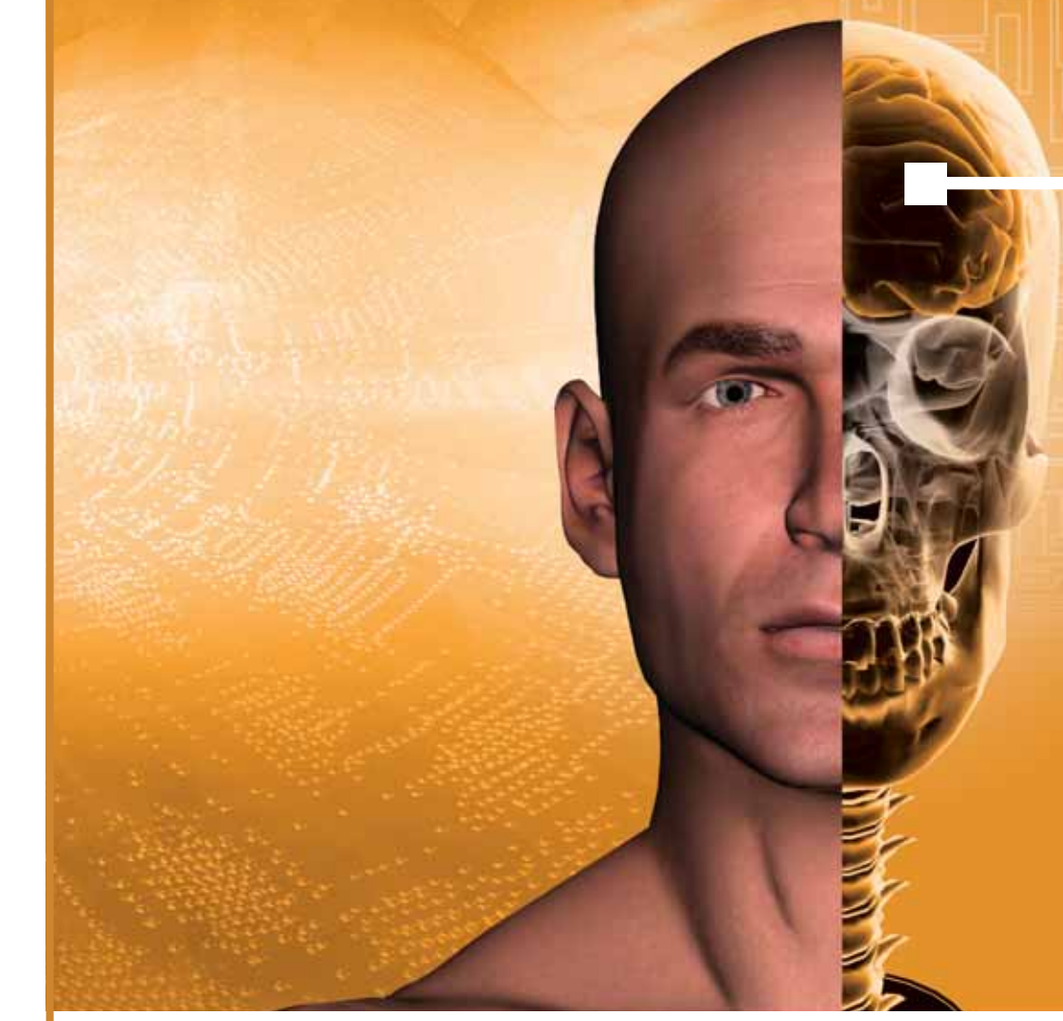

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Studio News

Games development's movers and shakers.
This month: Gusto grows and SCEE swells…

Gusto Games has this month welcomed in seven new recruits to its Derby studio.

Pictured in the back row from left to right are: Kevin Cook, who joins the studio as a lead programmer; Tom Scutt, who will be taking the role of creative director; Richard Morton, now art director and previously of Sega Racing Studio; and Phil Callaghan, who enters the company as a senior programmer.

In the front row from left to right are: Andy Gibson, Phil Bale and Phil Chapman, all of whom join the team as senior artists. With the exception of Morton, all of the new recruits come from Core Design/Rebellion.

"The team that we are assembling at Gusto Derby is vastly experienced and one that is highly passionate about what they are creating," commented Gusto's Steve Archer.

"They were all involved with the creation of the original *Tomb Raider* series. We will continue to grow the studio over the coming months with talented individuals that have ambition and an appetite for creativity."

www.gustogames.com

SCEE's Technology Group has recruited Kish Hirani as head of developer services.

Kish started off as a video games programmer at VIS Entertainment and had progressed various technical director level positions at Probe/Acclaim, BBC Multimedia and THQ before joining Microsoft as a technical consultant to identify European Vista launch titles last year.

Kish's extensive and proven experience on three generations of games consoles, from developer, publisher and platform perspective, will help SCEE evolve their existing world-class developer support, consultancy and other services to aid the ever-growing PlayStation developer community.

uk.playstation.com

George Kelion has this joined **Rare** as community relations manager.

Previously an account executive at PR agency Inferno Communications, Kelion worked on Microsoft's Server Business and Development Platform Evangelism accounts, as well assisting with games industry clients.

Prior to his stint at Inferno, Kelion was head of communications, marketing and PR at Mac game publisher Feral Interactive.

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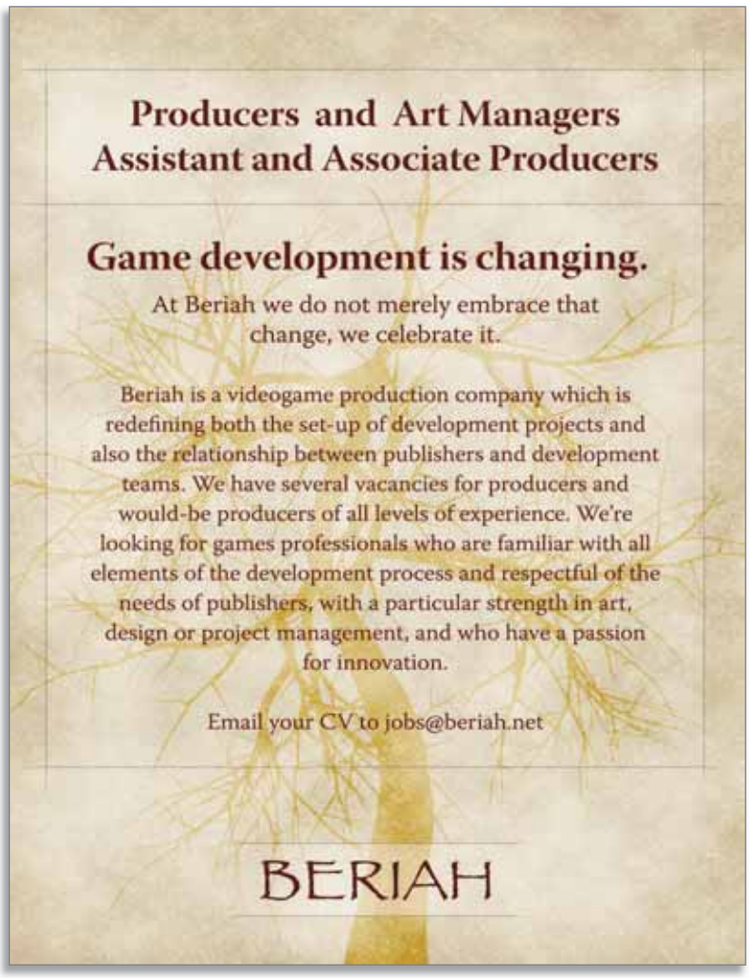
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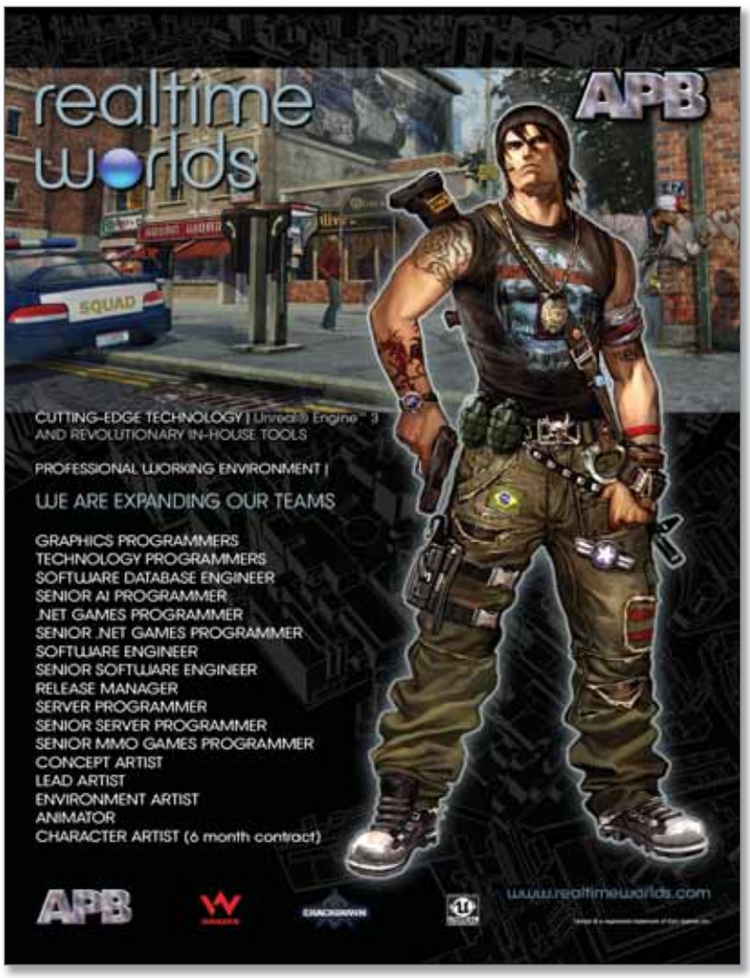

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Tools News

Ubisoft picks Hansoft

Ubisoft's Paris development studio has adopted the Hansoft project management system.

The software, which provides integrated QA and project lifecycle management with support for agile development management and scheduling, will be used by the studio's 200 staff in the development of future projects.

"Hansoft's fast and easy, state-of-the-art functionality strengthens our project management capabilities and enhances our studio efficiency," said Gaël Seydoux, producer, Ubisoft.

Patric Palm, MD of Hansoft, added: "Ubisoft's Paris studio is working on some of the industry's most exiting productions. We are very happy to provide them with a tool that gives benefits for all team members. With Hansoft they will be able to use agile and scheduling project management methodologies side by side, also within the same production."

www.hansoft.se

ITHEON NETWORK EMULATOR UPGRADED

Itheon Networks has upgraded the Itheon Network Emulator, adding full Vista support and the ability to dynamically alter emulated network conditions.

The INE emulates various network topologies, such as wireless, wide area, 3G and GPRS on a local LAN so that assorted network conditions can be tested before deployment. Previous versions only allowed static network conditions, but the scripting capabilities of the new edition adds in the ability to dynamically change conditions to emulate real-world situations.

"Giving full Vista support for INE for Windows is very important as there is no doubt that this will become the standard operating system for both corporate and home users, and organisations are now developing and testing their software for Vista," said Frank Puranik, Itheon Networks product director.

"They'll certainly want to ensure their new Vista software is going to perform properly in WAN, Wireless, Satellite and other non-LAN networks. The move to dynamic scenarios was next on our agenda, as it increases the realism of the network conditions by varying them as they would naturally vary in real-world networks."

www.itheon-networks.com

NATURALMOTION-SENSING

NaturalMotion's animation engine Morpheme has added support for Nintendo's Wii platform.

The engine already supports PS3, 360 and PC and is designed to give animators more control over their work.

"Wii is enjoying tremendous popularity, and we believe Morpheme can help developers further expand on the new gaming experiences that the platform has opened up," said Torsten Reil, CEO of NaturalMotion.

"Support for Nintendo's Wii console was a natural extension of the Morpheme product offering," he added.

www.naturalmotion.com

MAYA 2008 SUPPORT FOR QUBE

PipelineFX has released an update for its Qube! render farm management software, adding support for Autodesk's Maya 2008.

Users can use Maya 2008 with Qube! through the use of a custom jobtype, which enables the program to interface with all sorts of 2D and 3D rendering applications in a simple, GUI-based format that enables artists to control the distributed rendering process.

Qube! customers can download the version 5.2.1 update from PipelineFX's FTP site.

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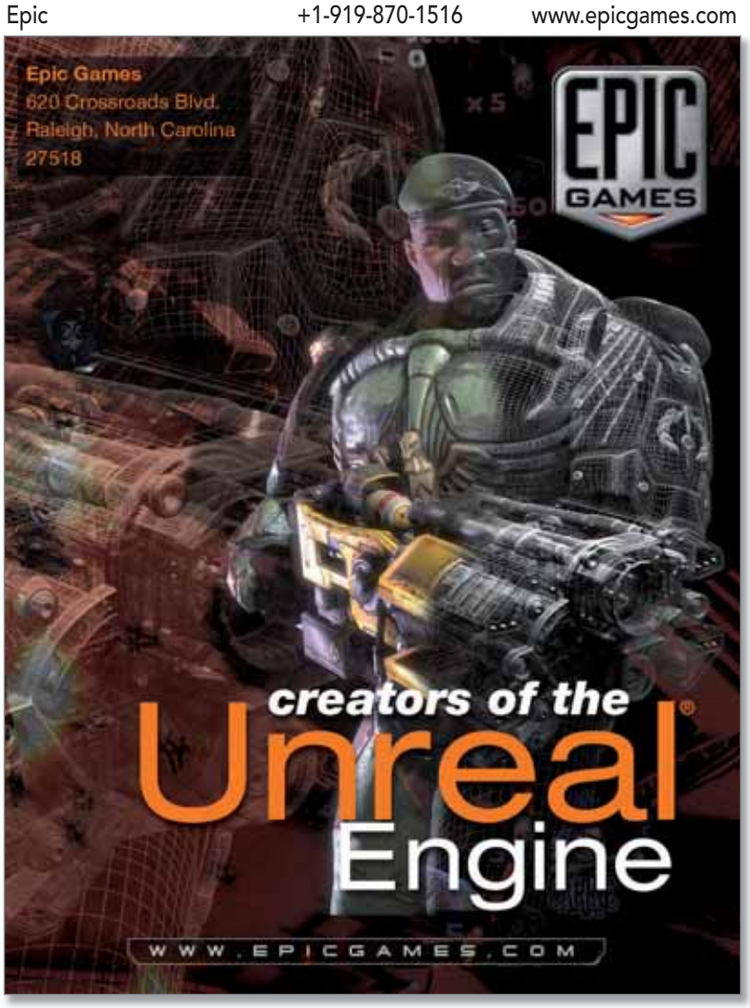

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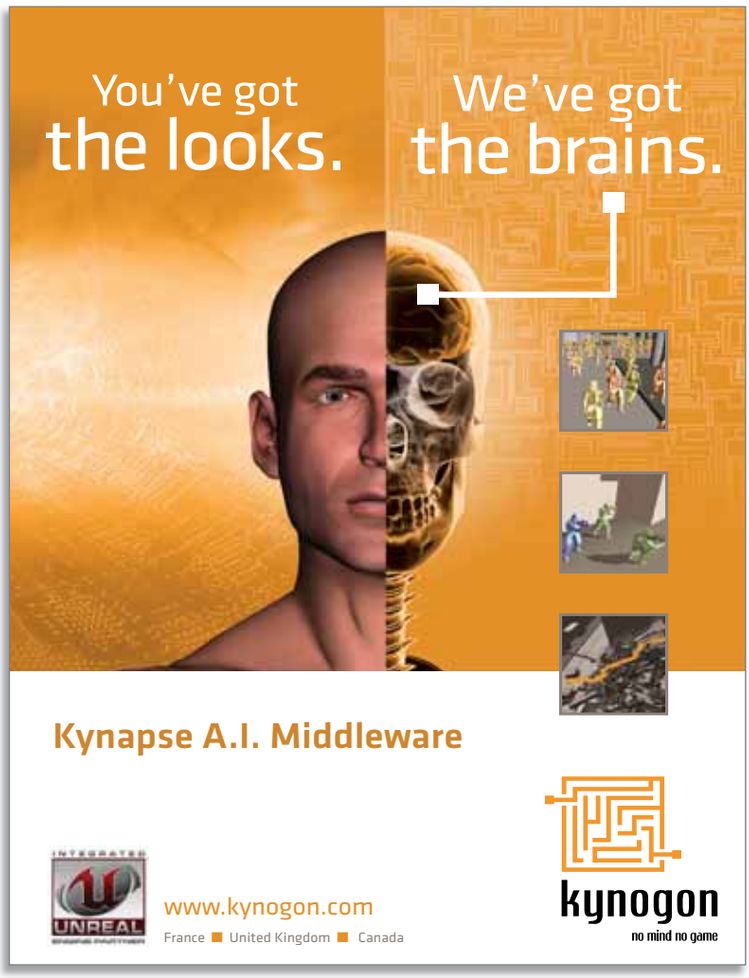

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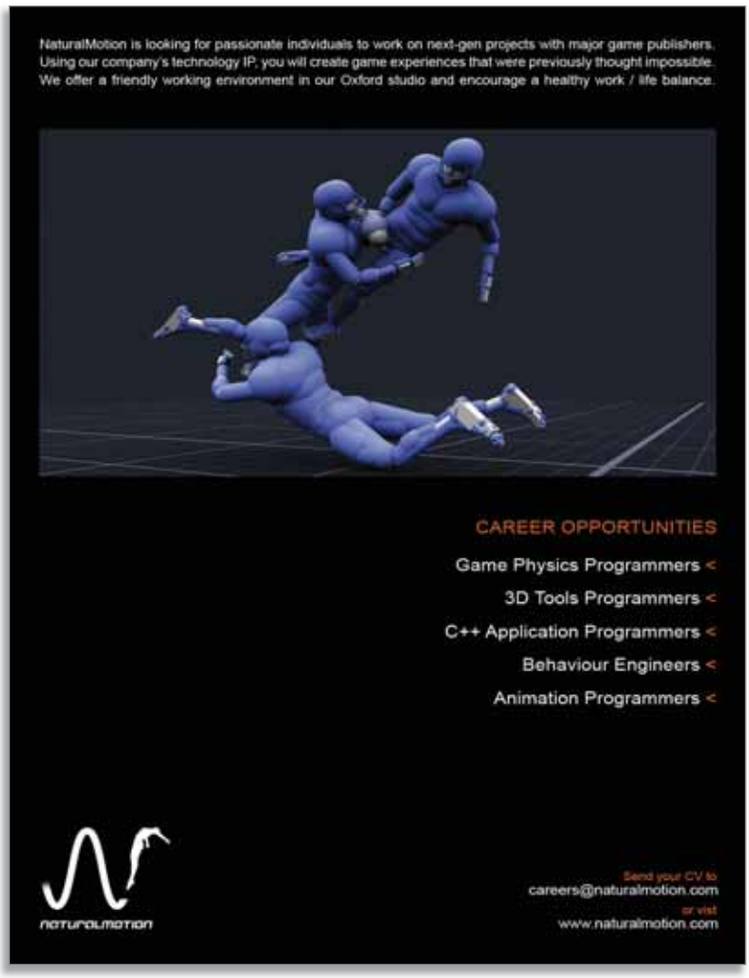
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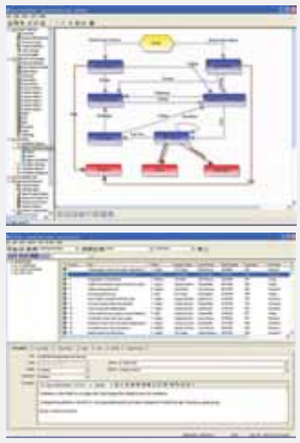
Tool Spotlight

TECHEXCEL DEVTRACK

DevTrack is TechExcel's project issue-tracking tool, comprehensively managing issues as far reaching as new features, QA reports and IT activities. Boasting a huge amount of customisability and a full web-based client for remote tracking, plus advanced features such as auto routing and escalation, DevTrack can also interface with the leading version control tools on the market including MS Visual SourceSafe, Perforce, CVS and SVN.



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Services News

New PR agency for developers established

Marketing consultancy firm Peppermint M has formed a new game studio-focused PR agency, Peppermint P, with the addition of Keef Sloan to the company as PR director.

The service has been set up to provide a PR offering to all development houses regardless of size, an area the firm feels is under-utilised.

Peppermint director Simon Jones said: "Having already delivered great work for clients such as Rockpool Games, Peppermint identified a need in the developer market; that of a low-cost PR service aimed purely at the digital development industry, and that's where Peppermint P comes in."

On his appointment, Sloan said: "Our vision is to provide a service to businesses operating in the development sector, and to assist them in boosting their profile through carefully managed media relations. We'll do this by spending time with our clients, listening to their needs, and then helping them to identify the best routes to take to achieve their goals.

"With the senior management team having over 30 years combined experience in the interactive entertainment industry; I feel that Peppermint P is very well placed to offer a truly unique and cost-effective solution to developers of all sizes," added Sloan.

www.peppermintp.co.uk

REALTIMEUK'S NEW RECRUIT

3D animation studio RealtimeUK has added Adam Parsons (above) to its team as senior producer.

Adam previously worked at Codemasters, where he was senior producer on *Clive Barker's Jericho*. In his nine years at the UK studio he also served as lead artist on several of the *Toca Race Driver* series, and prior to that managed creative teams at various design companies.

"The nine years' experience I have gained both as a developer running teams and a producer delivering complete titles has given me a unique perspective, as well as a true understanding of every step of the development process," said Parsons.

"My goal is to continue to strengthen the already established relationship between developers, publishers and RealtimeUK. Our objective will be to bring the company into the development process much earlier, so we can aid art directors and help them realise their vision into concept movies and render targets."

Tony Prosser, RealtimeUK's MD, commented: "It's our ambition to support games developers during the early stages and continue right through to launch. This is a very exciting time for the company, and by using Adam's experience and knowledge to bolster our services, we can move closer towards achieving our goals."

www.realtimeuk.com

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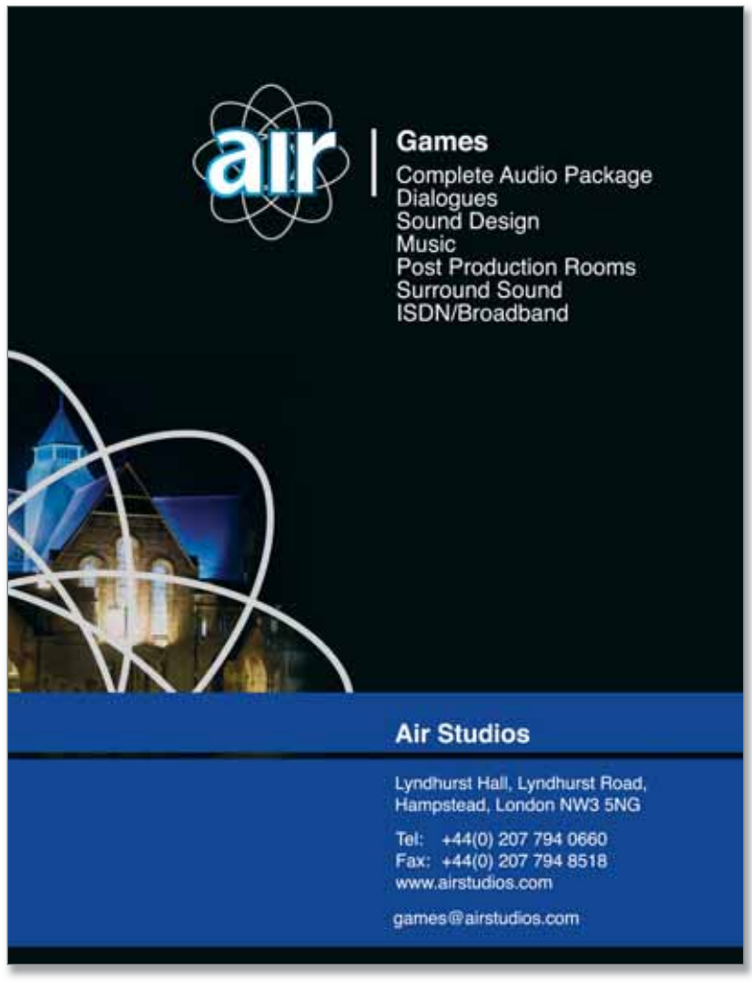

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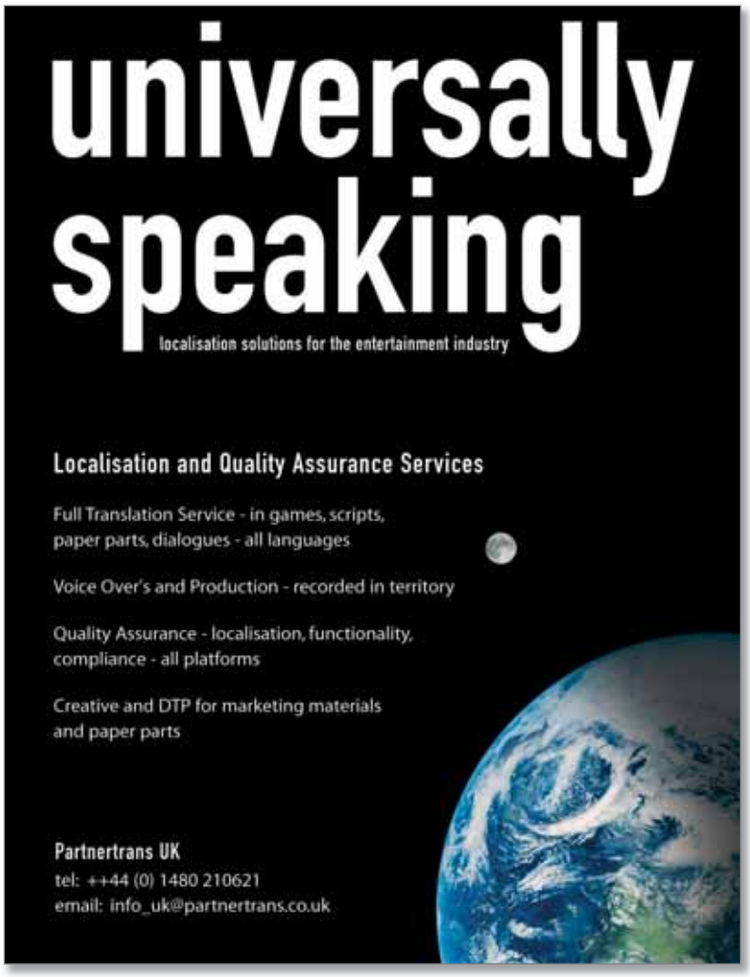
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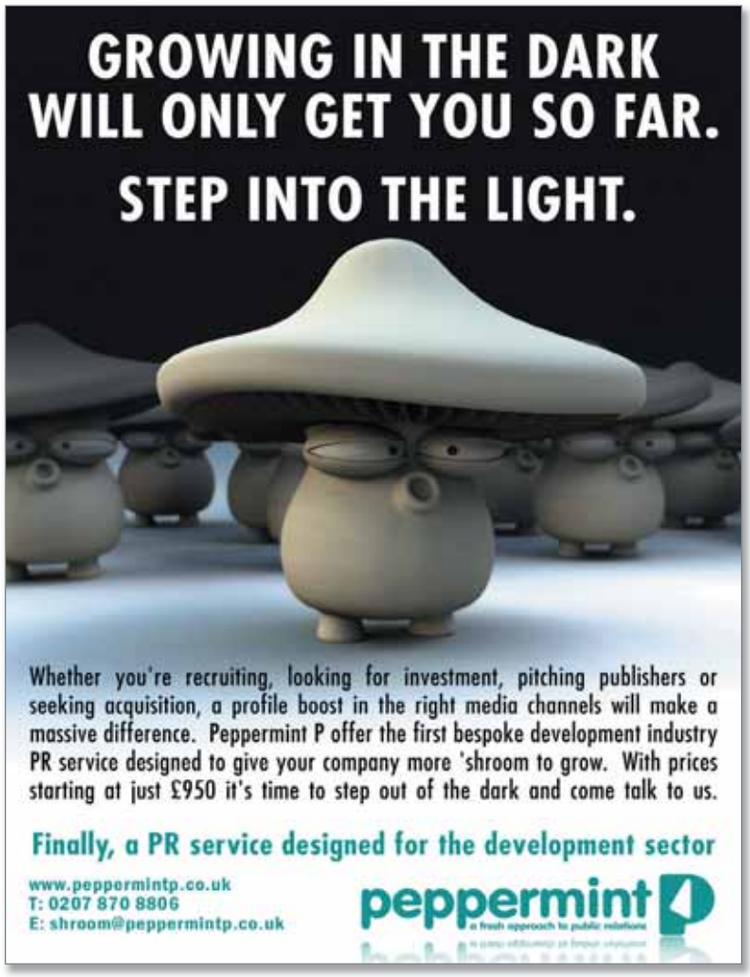
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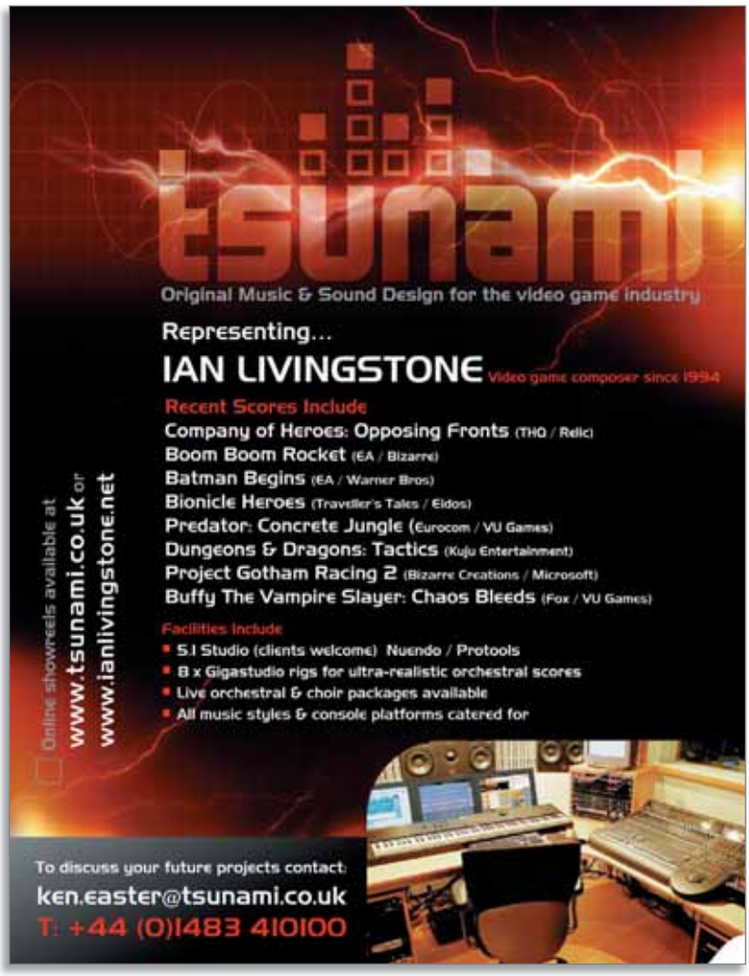
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Services Spotlight

SPECIALMOVE

FACTFILE
Area of expertise: Recruitment
Location: Glasgow
Founded: 2005
W: www.specialmove.com
E: admin@specialmove.com
Key Personnel: Matthew Hill (recruitment director)

Specialmove might look like a regular recruitment service, but there's a unique quality about them. It's not that they're awfully nice (although we're sure they are), or that they give away free iPods to everyone who finds a job with them – it's that, uniquely, every member of staff at the agency comes from 'the other side' – the games industry itself – giving them a unique perspective on the staffing situation.

"We have over 15 years experience working within games development, publishing and retail – we know what it takes to physically produce, market and sell games," says Matthew Hill, Specialmove's recruitment director *(pictured)*.

Key to their approach is that they always consult with the candidates before submitting potential matches to clients. "Only once we get the candidate's interest and approval do we submit the candidate's applications to our clients," he says. The approach, he points out, is their way of avoiding 'CV spam' – something the company is extremely against, and is at pains to point out it never indulges in.

The process of matching a candidate to a position is also something the team is keen to draw attention to, claiming that every CV that is received is "meticulously reviewed" and profiled with each available vacancy. Once a match appears to work, the candidate is contacted and 'sold' the opportunity, ensuring that the position is one they are actively interested in. It's a process the company is proud of, with Hill adding: "We believe that our approach is the right one, and that it works well with the busy executives within development studios."

And it would appear that it is indeed working. Within two years, Specialmove has established a solid client and candidate base, seeing a continual increase in turnover every month. They are keen to point out, though, that while expansion certainly isn't an undesirable eventuality, it'll never come at the expense of the service or the care they take in choosing candidates.

www.specialmove.com

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Training News

Games Academy licenses CryEngine 2

Crytek's CryEngine 2 has been licensed by games educator Games Academy for use in its teaching.

Games Academy will use the engine in its teaching, with students given the chance to build their projects using the studio's technology.

It's the second institute to licence the tech after American college Ringling signed up to the use the engine last month.

"We really thank Crytek´s management for their willingness to make their technology available for educational programs. Our students will start bringing this license to life with juicy projects," commented Thomas Dlugaiczyk, principal of Games Academy.

In a joint statement, Avni and Faruk Yerli, MDs and founders of Crytek, added: "We are very happy with the Games Academy being the first educational institution in Europe licensing our CryEngine 2. With this deal we are actively supporting the development of promising talents for the industry, as well we improve people's skills in using graphical high end technologies."

www.games-academy.de

BLITZ ANNOUNCES 2008 OPEN DAYS

Leamington Spa-based studio Blitz Games has announced the 2008 dates for its open days for students and lecturers on videogames-related courses.

This year sees the addition of a special workshop for lecturers in addition to the usual line-up of staff talks, advice sessions and studio tours. The open days for students run on March 3rd and 10th, with the open day for lecturers taking place on the 17th and the lecturers' workshop following on the 27th.

www.blitzgames.com/OpenDays

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THE BYRONIC MAN

Looking to be a record breaker? **Simon Byron** profiles a few you might not want to aim for…

Whilst the Games Media Awards will live long in my memory for many reasons – sambuca, brawling transvestite tramps and lost shoes, among the most obvious – the most genuinely exciting was clearly the *Guitar Hero III: Legends of Rock* Guinness World Record attempt.

I've been involved with *Guitar Hero* since before the launch of the original, and although me and it have had our fair share of ups, downs and bollock-bruising bust-ups, the World Record attempt was absolutely thrilling – up there with playing *Knights of Cydonia* on stage in Edinburgh, which is honestly the happiest I've ever been playing a videogame.

Obviously it wasn't me that set the record, but just watching freelance journalist Luke Albiges embark on this record attempt filled me with the kind of excitement reserved usually for watching episodes of MiniPops on YouTube at bedtime.

Some of the records they're putting forward for the *Guinness Book of Records Videogame Edition* are genuinely inventive – but I'm not sure they'll go far enough. Where's 'Most Obvious *Brain Training* Rip-Off', for example? The most deserving winner of that is currently *MinDStorm* – which should also pick up 'Most Contrived Title With A DS In It For A DS Game'. I hear the only reason there's no PlayStation Portable version is because 'MindPSPorm' looks even more ridiculous.

"Some EA titles give you points for just turning the console on, but this may be a genuine achievement for the morons that choose to buy Need for Speed each year…"

There are no special media and marketing awards, either. We could do with 'Most Non-Committal Review', 'Most Outrageous Box Quote', 'Earliest in a Decade Someone Can Call Something "The Game Of The Decade"' and 'Most Expensive Demo Disc With Free Magazine'. There would be an award for 'Most Outrageous Retrospective Claim', but a list of those who've taken credit for Lara Croft would fill a tome itself. Ironic, given everyone else knows it was an accident.

Some Records, of course, can rarely be broken. Take the one for 'Longest Functioning Xbox 360'. The chap in Scunthorpe, whose console has lasted a record-breaking couple of weeks, looks set to hang on to that one for life. Or 'Most Appropriate Box Stars' – which go to *Pro Evolution Soccer*'s Michael Owen and Christiano Ronaldo, given the Xbox 360 version of the last iteration was broken and full of cheats. And 'Most Deceitful Game Title' which will never be beaten by Nintendo's *42 All-Time Classics*. I looked the definition of 'classics' up on the Internet, and it didn't say "games you'd never heard of and would never play."

Of course, not everyone can be a Record Breaker – and for those plebs, Achievement Points are something to aim for, even though they're less of a badge of honour. Indeed, it came as no surprise to read a recent report which revealed games with more of these honours tend to sell more and get higher review scores. They're all over achievers, if you will.

The only problem with some of these Achievements is we're not imaginative enough with them. Complete a level, beat a boss, find hidden icons; it's OCD for interactive entertainment. Some EA games even give you points for essentially turning the console on, although I suspect this may be a genuine accomplishment for the morons that voluntarily opt to buy *Need For Speed* every year.

Let's get more creative. How about some points for playing *Halo 3* for more than an hour without realising it doesn't just insult the spirit and design of the original, it spits on its grave and then violates the corpse? Maybe a special bonus for people who get all of the Achievements in *King Kong* – where their avatar is automatically changed to that of "Achievement Whore". Most difficult to obtain, though, would be an Achievement in *Perfect Dark Zero* for not putting your foot through the TV because the game is such an insult to gamers everywhere.

But whether it's a proper Guinness World Record, or a stack of Achievement points, all I ask is you keep your hands off 'World's Worst Column'.

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